

REFLECTIONS ON VOICES :

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ABSTRACT :

Voice hearing (auditory hallucinations) is associated with multiple problems : disturbed behaviour, anxiety, depression, social stigma, and suicide (Siris 1991, Barnes et al. 1989, Caldwell & Gottesman 1990). Traditionally voices are seen as a symptom of schizophrenia , psychosis, and mental illness, even though recent estimates of prevalence are 2-4% of the population (Siris 1990, Tien et al. 1993). This view has been challenged by research that has shown that there are many different experiences of voices, positive and negative, and that they are not confined to particular diagnoses or clinical populations (Romme & Escher 1989, Bentall 1990).

The aetiology of voice hearing is still unknown and to date a comprehensive cognitive model has yet to be elaborated. This study explores the role of metacognition in the maintenance of distress about voices and offers an alternative to the prevailing cognitive account of voices suggested by Chadwick & Birchwood (1994). Morrison, Haddock & Tarrier 's(1995) idea that voices arise because of particular metacognitive beliefs concerning intrusive thoughts is also explored. Using multiple regression analysis this study has shown that metacognitive factors can be used to make a fairly good prediction of levels of distress about voices ($R^2 = 0.64$, $F=9.64$, $p<0.001$). Important elements of metacognition that were highlighted by the analysis were fears of madness as a result of hearing voices, degree of personal responsibility taken for thoughts in general, degree of responsibility for voices, perceived abnormality of hearing voices for others, desired positivity of thoughts in general, and perceived weak-mindedness. The presence of malevolent content and anxiety were also found to be important in giving a comprehensive account of distress associated with voices.

Methodological limitations, theoretical contributions and implications for future research are discussed. The idea of a metacognitive therapy for voices is introduced.

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Authors declaration

At no time during the registration for the degree of Doctor of Clinical Psychology has the author been registered for any other University award.

The contents of this bound volume are identical to the volume submitted for the examination in temporary binding except for the amendments requested at the examination.

This study was conducted whilst the author was a Trainee Clinical Psychologist in the South West Region based in Torbay Healthcare Trust, South Devon.

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INTRODUCTION

OVERVIEW :

This study draws together recent insights into the experience of **hearing voices** as a clinical problem, and the developing theories of how higher-order mental processing is involved in the aetiology of common clinical disorders. In particular, I am interested in the role of **metacognition**, which in general terms is concerned with what we think about thinking and our ideas about how our minds work. In this study I will demonstrate that the role of metacognition is crucial to our understanding of why hearing voices becomes a clinical problem. The aim of this piece of research is to test hypotheses about the relationship of metacognition and distress associated with hearing voices.

The following literature review traces the origins of these ideas and the rationale behind the current study.

1. LITERATURE REVIEW

1.1 Distress associated with voices - why is it important ?

Auditory hallucinations or 'hearing voices', traditionally associated with psychosis, are relatively drug-resistant (Lieberman et al. 1991, Meltzer 1992) and are a significant cause of anxiety (Siris 1991, Moorey & Soni 1994) depression (Barnes et al. 1989), social disability (Birchwood et al 1993) and suicide (Drake & Cotton 1986, Caldwell & Gottesman 1990) amongst people with mental health problems. Risk of relapse is particularly high amongst those experiencing continuing so-called 'positive psychotic symptomatology' i.e. continuing to hear voices, and reporting emotional distress (Goldberg et al 1977). Estimates of the prevalence of severe depression at the time of

acute relapse range from 25-50% (Siris 1991). Panic and anxiety symptoms occur in around 60% of people with chronic psychotic disorder (Siris 1991, Moorey & Soni 1994). Voices themselves vary considerably in their content, loudness, intrusiveness, and the extent to which they are perceived as distressing. (Chadwick & Birchwood 1994). Personal distress is a major motivation for seeking help from mental health services, and is a major cause of disturbed behaviour.

Partly because of traditional theories of mental illness which have characterised people with schizophrenia as 'lacking in insight' or 'out of touch with reality', subjective assessments of distress have been less important in the management of symptoms than assessment by professionals and significant others. The current system of assessment being used in many mental health teams (Health of the Nation Outcome Scales (HoNOS 1995) for instance, is purely a classification of impact of 'Hallucinations and delusions' on the individual, made by that individual's keyworker. This study in contrast is mainly concerned with the subjective experience of distress due to voice hearing, although it does compare participant ratings of distress with those of mental health professionals.

1.2 Psychological perspectives on voice hearing :

The aetiology of voices is still unknown, however, recent research into the phenomenon of hearing voices has highlighted the importance of psychological factors in the individual's reaction to hearing voices. Amongst voice hearers we find a wide variety of levels of distress associated with voices, different coping strategies and many ways of managing their experiences.

Most traditional psychological and psychiatric theories of voice hearing are normative, i.e. they are concerned with making judgements about what is normal and abnormal for the majority of people. From this perspective voice hearing is a relatively rare phenomenon, usually associated with mental illness and schizophrenia in particular. However, more recently this view has been challenged by research findings that hearing voices is not as rare as we thought (current estimates of prevalence of voice hearing is 2-4% of the population), and exists within non-clinical populations, across different diagnoses, and therefore need not be necessarily a psychiatric or psychological problem (Romme & Escher 1989, Slade & Launay 1985, Bentall 1990, Tien 1991, Eaton et al. 1991, Barret & Etheridge 1992). A fruitful line of investigation which has followed on from this has been the application of theories of 'normal' psychological processes to our understanding of voices as a presenting clinical disorder.

1.3 The Cognitive approach to hearing voices :

To date a comprehensive cognitive model of voice hearing has yet to be described, and there is much debate concerning the psychological processes through which voice hearing might occur. However, there are a number of key themes and assumptions within the cognitive approach.

Firstly, there is developing support for the idea that **voices are caused by the misattribution of internal cognitive events to an external source.** There are various theories concerning how this process of misattribution occurs : studies using psycholinguistic theory and brain imaging have suggested that subvocalisation is evidence of misattribution at a language production stage. This is illustrated by Hoffman & Rapaport (1994) who describe voices as deriving from "pathologically stored linguistic

information in long-term memory which disrupts language production processes."

(p.236). These pieces of information are experienced as alien and unintended by the individual and therefore described as voices. Neuropsychological theories such as David (1994) suggest that misattribution occurs as a result of faulty language input and output processes, and Frith (1987,1992) that hallucinations reflect a deficit in internal monitoring that regulates inner speech. Consequently, the individual experiences a dissociation between planned or willed intentions and action.i.e. a failure to recognise self-initiated action.

Bentall (1990a,b) however, argues that voices arise out of self-monitoring problems. His theories highlight a second key idea within the cognitive approach to voices : that **misattribution occurs as a result of failures of monitoring of internal events**.What is significant in his theory for this study is his hypothesis that this deficit is influenced by **top-down cognitive processes which determine beliefs and expectations about what kinds of events are likely to occur**. In a series of experimental studies Bentall et al. have tested out these hypotheses, in particular the ability to discriminate between internal and external events (Bentall & Slade 1985, Bentall, Baker & Havers 1991).They found that hallucinators tended to misattribute self-generated words to the experimenter, especially on high cognitive effort tasks which should normally facilitate accurate source monitoring. These source monitoring skills are seen as an aspect of reality monitoring. Bentall et al. (submitted) have recently suggested from their studies of hallucinating and deluded patients, that **external attributions are more likely for material that is either inconsistent with self-concept, or negative in content**.

Bentall also argues that certain **reinforcement processes** occur to facilitate this misattribution, such as heightened anxiety over negative thoughts about self. This is supported by Romme & Escher's (1989) finding that non-clinical populations report more positive relationship and content of voices than clinical ones.

Chadwick & Birchwood (1994) elaborate on ideas first suggested by Romme & Escher (1989) that variation in cognitive, behavioural and affective response to hearing voices reflects **beliefs about voices**. Whereas Benjamin (1989) had argued that *voice content* determined reaction to voices, Chadwick & Birchwood (1994) argue that it is *beliefs* about the power, identity and meaning of voices that lead to attributions of malevolence and benevolence, even when voice content is inconsistent with this attribution (31% of their cases). Voices believed to be malevolent caused fear and tended to be resisted, whereas those believed to be benevolent, were engaged with. It follows that these 'core beliefs' about voices should be the main target of intervention. Chadwick & Birchwood (1994) reported "large and stable reductions in conviction in these beliefs.....associated with reduced distress, increased adaptive behaviour and unexpectedly, a fall in voice activity " (p.190) when intervention at this level was undertaken. Caution is required however in interpreting these findings given the small scale of the study (26 individuals) and its descriptive rather than explanatory nature i.e. it does not test particular hypotheses.

Following a television interview given by a voice hearer, Romme & Escher (1989) were able to contact voice hearers who were not necessarily in contact with mental health services, in order to ascertain differences between those who coped well and those who did not. They found that those who did not cope well generally experienced voices as

negative and aggressive, whereas those who coped well experienced them as friendly and positive. Another important difference was the degree of interference or rejection of the voice as internal and part of self, or external and alien, the latter being associated with more distress. Romme & Escher (1989) suggest that it is in the search for the meaning of beliefs and personal theories of voices, that distress is alleviated, rather than any attempt to modify them. They comment :

"Coping success appears to entail reaching some sort of peaceful accommodation and acceptance of the voice as 'part of me'. Those strategies that focussed on ignoring a hostile 'not part of me' voice were less adaptive" (Romme & Escher 1989 p.213)

Bentall et al.'s recent research findings that external attributions are more likely for material inconsistent with self-concept, seems to confirm this conclusion.

People also used different 'frames of reference' to explain their voices which were psychodynamic, parapsychological, mystical and medical in nature, which could also be broadly divided into frames that see voices as internal or external to self. In later studies Romme & Escher (1993) found more differences between copers and non-copers : experience of self as stronger than the voices, experience of more positive voices and less negative ones, less commanding voices, being able to set limits to the voices , listening selectively, perceiving more support from others, communicating more frequently about voices and marital status. This explanation sees the ability to cope with voices as an interaction between individual psychological and social environmental factors. Another important point made by Romme & Escher (1989) is that fears of madness are important maintaining factors in distress about voices.

Research studies therefore highlight the importance of interpretation, appraisal and beliefs about voices, the importance of personal salience, meaning of hearing voices and the integration of new or unusual experience with self-concept.

1.4 Relevance to Cognitive Therapy :

The use of Cognitive Therapy with people who hear voices is currently being established as an effective method of symptom reduction and management (Haddock & Slade 1996, Birchwood & Tarrier 1994, Fowler, Garety & Kuipers 1995). Randomised controlled therapeutic trials are currently being undertaken. It is a far from unified field however, with different techniques being used, based on different research findings and theories.

For instance, subvocal distraction techniques have been used but are difficult to generalise and do not seem to produce long-lasting effects. (Margo et al. 1981, Nelson, Thrasher & Barnes 1991, Gallagher et al. 1994) From a review of treatment methods Haddock, Bentall & Slade (1993) found that focussing and graded attendance to voices are most likely to produce change (Nelson, Thrasher & Barnes 1991, Fowler & Morley 1989, Tarrier et al 1990). They conclude that :

*"Psychotherapeutic strategies such as the approach reported here
might be thought to influence top-down processes in particular."*

(Haddock et al. p.343)

Another key feature of successful cognitive therapy has been normalising the individuals' experience (Haddock et al. 1993, Kingdon & Turkington 1991), indicating the importance of comparison of own experience with others experience and social norms.

Positive outcomes have also been demonstrated using belief modification (Tarrier et al. 1993, Kingdon & Turkington 1991, Haddock et al. 1993, Chadwick & Birchwood 1994). This involves the idea of hypothetical contradiction (Brett-Jones et al. 1987) to assess how open people are to evidence that contradicts core beliefs. Verbal challenge (Chadwick & Lowe 1990) involves asking the client to question the evidence for core beliefs, and to generate alternative plausible interpretations. Having questioned the evidence behind particular beliefs, an attempt is made to challenge beliefs directly. This involves pointing out inconsistencies and irrationality, offering alternative explanations e.g. that voices are self-generated, and that beliefs are an attempt to make sense of them. Testing other beliefs e.g. about controllability of voices empirically, i.e. in the session. The particular kind of therapeutic method that Chadwick & Birchwood (1994) propose is the disputing and testing of the mediating beliefs about the power, identity, and meaning of voices.

1.5 Why is metacognition important in understanding voices ?

We can define metacognition simply as *thinking about thinking*. This involves thinking about the way our mind works, about how the minds of others work, or about particular thoughts which occur. Wegner (1994) defines it in the following way : "Metacognition occurs when thought takes itself as an object....your metacognitive activity need not settle on any single thought, as it can extend to many different thoughts as a group. For

that matter, your metacognitions may be about your thought processes and capacities " (p.44)

Metcalfe & Shimamura (1994) define metacognition as 'knowing about knowing', which is misleading as it implies epistemology, the study of knowledge elaborated mainly within Sociology and Philosophy, rather than Psychology.

Metacognition is at the heart of mental control. To control our own minds, we must think about it, grasp what it is doing, and exert some form of influence on its course of action. Wells & Matthews (1994) describe metacognition as "an aspect of executive control of thinking" (p.35) which has 'knowledge' of the whole cognitive system, and routines for regulating thinking. More simply, Wegner (1994) likens cognition to a 'print' statement on a computer, and metacognition to a 'run' statement. In a subtle description which points out the complexity of its relation to mental control, Wegner states that "Metacognitions are preferences for our minds, wishes about what we might think. " (p.49). The essential paradox inherent in this activity is illustrated by Wegner by looking at the suppression metathought : "I'd rather not think of a white bear.", the problem being that the thought of a white bear is already present. The only way out of this paradox is to switch to another metathought, i.e. self-distraction.

Research into metacognition is in a formative state, but there are two main areas that appear to be evolving : firstly an understanding of the operation of *metacognitive processes*, and secondly, the understanding of the role of *metacognitive beliefs*. The former is being elaborated mainly within Cognitive Psychology, using information processing models of the mind, and the latter within Clinical Psychology in relation to

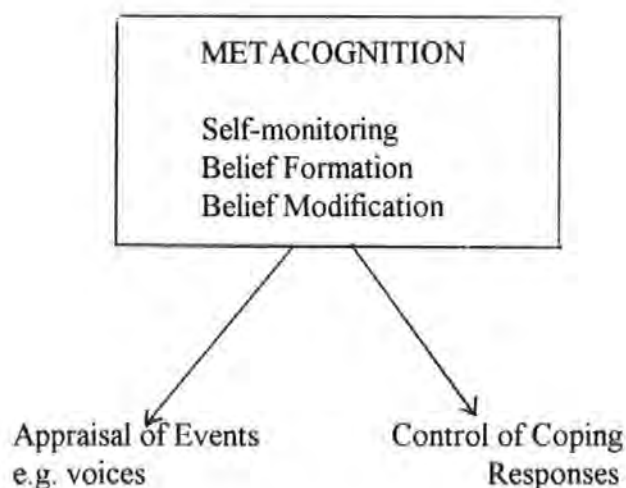
specific clinical disorders. The current study lies more within the second tradition than the first, being an account of how metacognition is specifically related to distress about hearing voices. It does however draw on the theory and experimental evidence of information processing accounts of metacognition.

1.6. Metacognitive Processes :

In an early attempt to define metacognition, Norman & Shallice (1980) conceptualised it as a range of mental tasks including planning, decision-making, 'trouble-shooting', and initiating novel sequences of actions. They are seen as being characterised by higher cognitive effort and involved in changing habitual routines of action or thought. These activities have an obvious relevance to therapeutic processes.

This study is concerned with five particular aspects of metacognition which are likely to operate within feedback systems : appraisal of events (external and internal), control of coping responses, belief formation and modification, and self-monitoring. A simple model of metacognition is described below in Figure 1 :

Figure 1 : Model of Metacognition :



All of these aspects of metacognition are likely to play an important role in transforming normal events into ones considered pathological by the individual, and are therefore crucial to an understanding of clinical disorder.

The difficulty involved in investigating subjective experience has resulted in the concentration of research in this area on individual beliefs which can be more easily elicited than active processes of metacognition. An alternative strategy to look more closely at metacognitive processes would be the use of methods that ask individuals to make causal attributions about hypothetical thoughts.

1.7 Metacognitive beliefs

These are beliefs about thinking, thoughts, and the way our minds work, and involve expectations and judgements about what is normal and abnormal mental experience for self and others. In the context of anxiety disorders, Wells & Matthews (1994) for instance refer to beliefs that the individual may hold about possible impairment in natural coping mechanisms, which lead to an over-compensating response, a hyper-vigilance and rehearsing of coping strategies.

1.8. Self-monitoring :

As Wegner (1994) has pointed out, an essential element of metacognition, is self-reference, both to the self that is engaged in metacognition, and the process itself. However, in attempting to define this aspect of metacognition, we immediately run into conceptual and semantic difficulties. Difference in terminology tends to reflect different theoretical perspectives on self-referent concepts, such as self-consciousness (seen as a state or trait), self-monitoring (a process), and self-awareness (process, state or trait).

In an early study, Exner (1970) demonstrated with the use of self-referent sentence completion tasks, that schizophrenic patients produced more self-focussed statements than controls. However, there has been little work done on this relationship subsequently, and there is nothing specifically on voice hearers.

Wells & Mathews (1994) also argue that heightened self-focus is found in a range of 'pathological reactions' including anxiety states and depression (Ingram 1990), as well as mediating vulnerability to stress (Mathews & Wells 1988, Wells 1985). They argue that increased self-focus acts to intensify emotion, possibly disrupting coping strategies, and avoiding modification of fear schemas. Self-focus also involves self-evaluation which the cognitive approach makes central to theories of depression and anxiety.

Research into self-focus has concentrated on content issues rather than process accounts of emotional dysfunction. Wells & Mathews (1994) have addressed this in developing a model of metacognitive processes which explains emotional distress. They suggest that pathological emotional distress occurs because of disorder at a metacognitive level, in the self-regulatory executive function (or SREF) of the mind. They conceptualise this as a metacognitive process controlling self-monitoring, appraisal of lower level processing, and initiating or regulating action aimed at lowering self-discrepancies, and managing perceived threats to self. Self-focus is switched off when a discrepancy is eliminated or attention is directed away from self. This theory has parallels with the work of Frith (1992) who also argues that a single common metacognitive disorder underlies clinical problems.

Building on this, they propose that individual differences in dispositional self-focus (private self-consciousness) are a marker for the likelihood that individuals will develop cognitive-attentional dysfunction under stress. This increases vulnerability to emotional dysfunction. The most important metacognitive process is that of matching appraisal of internal or external events and self-referent standards or beliefs.

There is some support in the literature for an optimal level of self-focus being protective for clinical disorder (Miller & Thayer 1988) and that it has a U-shaped relationship to adjustment.

Also from earlier studies by Duval & Wicklund (1973), we know that attributed causality for an event is influenced by the stimulus which is the focus of attention at the time.

People high in private self-consciousness are therefore more likely to be focussing on the self, and are therefore hypothesised to be more likely to have a bias towards internal attribution. From a cognitive perspective we would also hypothesise that this is linked to lower levels of distress about voices.

Frith (1992) conceptualises schizophrenia as a disorder of metacognition which leads to an 'abnormal state of self-awareness', characterised by low levels of self-monitoring. If an individual has a low level of self-awareness, they are less likely to attribute voices internally, i.e. less likely to think voices may be internal events. From this, we might therefore hypothesise that those who are low in self-awareness are likely to experience greater distress due to voices.

However, from the literature on attentional processes and clinical disorder we know that if attentional resources in general are attuned to experience seen as abnormal, we might expect those who are high in self-awareness to be more distressed. In an attempt to solve this dilemma, Miller & Thayer (1988) hypothesised a U-shaped relationship between self-monitoring and 'adjustment'. However, their definition of self-monitoring is based on a self-presentational theory (Snyder 1974) which is not necessarily related to metacognition, but is rather a measure of public self-consciousness (Briggs et al. 1980). Furthermore, early theories of self-consciousness conceptualise attentional processes as being directed at either self or the outside world (e.g. Duval & Wicklund 1972), which is no longer an assumption we can make, given the development of parallel-processing models of attention (Kahnemann 1973).

Given the lack of clarity, and contradictory nature of research findings to date, it is not possible to specify the direction of causation between self-focus and distress.

1.9 Metacognition and the development of clinical disorders

Having considered the nature of metacognition, its relevance to clinical disorder and change in psychological processes should be clearer. There is a strong tradition within Clinical psychology of Cognitive approaches to emotional disorders which have focused primarily on the role of beliefs about the self and the outer world. The most familiar is probably Beck's triad of negative beliefs about self, the world and the future which are associated with depression (Beck et al. 1979, Beck & Clark 1985)

Although this has now proved to be a simplistic explanation of how mood and cognition interact, in the primacy it affords to cognition, his theoretical elaboration was a

major catalyst to the development of Cognitive-behavioural therapy for a wide range of clinical disorders, and was essential to the idea that emotional disorders can be distinguished on the basis of cognitive content of beliefs.

A metacognitive account proposes a dimension of belief and cognitive processing concerned with the regulation and interpretation of one's own cognitive processes as also important to the development of disorder. There is considerable evidence within the literature on other clinical disorders that metacognitive factors are important, and useful parallels can be made between these research findings and the experience of hearing voices.

For instance, the importance of metacognition has been highlighted in research into Anxiety disorders where it has been used to explain the development and maintenance of Obsessional-Compulsive disorder (Salkovkis 1985, 1989, Rachman 1994), worry (Borkovec et al. 1991), Hypochondria (Wells & Hackmann 1993), Anxiety (Davey & Tallis 1992), Panic Attacks (Clark 1986), social phobias (Wells & Matthews 1994), and post-traumatic stress disorder (Ehlers & Steil 1995). Metacognition is also closely linked to 'theory of mind' (Baron-Cohen, Leslie & Frith 1985) used by Frith (1989) to explain the development of Autism and Frith (1994) in Schizophrenia.

Wells & Mathews (1994) suggest that beliefs about cognition (metacognitive beliefs) are vulnerability factors for emotional disorders in general. For instance in a study of chronic worriers, they found beliefs that their worries were uncontrollable. The involuntary nature of onset of worries was seen as evidence of their uncontrollability, and hence coping strategies did not operate to lower distress (Wells & Morrison 1994). Similarly,

worry was seen as an effective coping strategy, and individuals held metacognitive beliefs that their natural coping strategies were impaired, requiring them to compensate for this. The consequence of these beliefs was a hyper-vigilance to threat, and over-rehearsing of coping strategies, which maintained problems rather than solved them. This has been found to be true of health anxiety (Wells & Hackmann 1993) and chronic worry (Borkovec et al. 1991). From the findings of this research we can hypothesise that voice hearers may hold similar metacognitive beliefs about the controllability and uniqueness of voices, and the need for special compensating strategies. The involuntary nature of onset of hearing voices which has been frequently reported in the literature, may be taken as evidence of subsequent uncontrollability preventing the development of adaptive strategies.

These theories have focussed on the role of **cognitive intrusions**. Rachman (1978,1981) first described these as repetitive thoughts, images or impulses which are unacceptable or unwanted, usually accompanied by psychological discomfort and an interruption of current mental activity. Clark & Purdon (1992) added to their characteristics that they are **unrealistic, uncontrollable** and **ego dystonic**. i.e. they share characteristics with hearing voices.

Salkovskis (1985, 1989) in his theory of obsessional-compulsive disorder, emphasises two aspects of metacognition : Firstly, **appraisal** of intrusive thoughts in terms of their personal salience, and secondly, the **initiation of coping mechanisms** e.g. trying to think positive thoughts, neutralising responses to provide short-term relief of anxiety. The problem is maintained in the longer-term however by the lack of modification of beliefs or schemata about the intrusive thoughts themselves e.g. that they are irrational,

or that they indicate real threats and must be dealt with, and the failure of thought suppression techniques (Wegner et al. 1987). Subsequently the failure of these coping responses escalates the problem and may be seen as signs of mental instability or madness. (adding new metacognitive beliefs that are dysfunctional), and thereby increasing distress.

Obsessional problems develop when the occurrence or content of intrusive thoughts are interpreted as a sign of increased personal responsibility for a harmful outcome for self or others. Therefore, according to Salkovskis' model, **it is metacognitive beliefs** (particularly related to responsibility), **rather than a generalised cognitive deficit** (such as Friths (1992) idea of a deficit in internal monitoring), **that are generative of distress**. He argues that the content of intrusive thoughts are ego dystonic (incompatible with their belief system) and are therefore perceived as irrational. In contrast, the research into intrusive thoughts and obsessions has shown that intrusions are common in non-clinical populations, and their content is very similar to that found in clinical samples (Rachman & de Silva 1978, Salkovkis & Harrison 1984). This provides an empirical basis for the continuity between normal and abnormal experience, proposed by psychological theories, as opposed to the biological and neuropsychological deficit models. This finding is paralleled in the field of hearing voices by the work of Romme & Escher (1989,1994). **Moreover, it suggests that disorder does not lie in the mere occurrence of intrusive thoughts, but in their interpretation in a negative way.**

Further evidence for the importance of metacognition in the development of psychological problems is found in the work of Mcfall & Wollersheim (1979) who refer implicitly to metacognition through their discussion of primary and secondary appraisal

in anxiety disorders. Primary appraisal directs attentional processes to the experience of an event which is perceived as threatening. Secondary appraisal is then involved in perception of self as able or unable to cope with the threat, either lowering or heightening anxiety. Failure of these mechanisms to lower distress, or beliefs that they cannot be coped with, may increase distress. **Therefore Metacognitive beliefs about what is expected and normative about thoughts and other types of mental experience will influence appraisal and hence level of distress experienced.** This is likely to involve a whole range of metacognitive beliefs about self-efficacy, the nature of thoughts (e.g. controllability, normality, content), ideas about personal responsibility for thoughts and attributions about causality of thoughts. Metacognition is therefore involved in transforming normal intrusions into pathological structures.

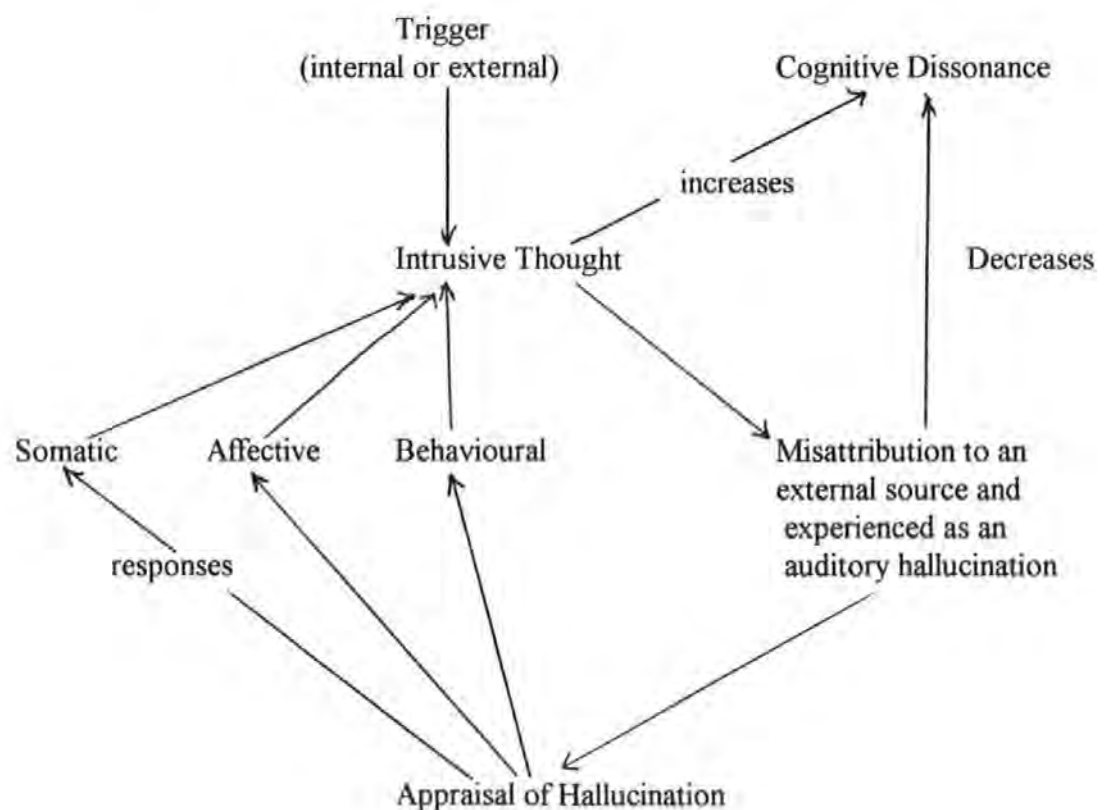
In the light of other confirmatory evidence (Romme & Escher 1989, Bentall 1990, Chadwick & Birchwood 1994), we can apply this to the case of hearing voices and say that it is not the mere occurrence of unusual or unexpected experiences, such as hearing voices, which causes distress (the traditional response to voices as a sign of 'madness'), but rather their interpretation which should be the focus of attention. As in the case of obsessional thoughts, this may result in attempts to 'overcontrol' cognitive processes leading to a spiral of failure, distress and increased frequency of voices. This centrally involves metacognition.

1.10 Metacognition and distress associated with voices :

A recent paper by Morrison , Haddock & Tarrier (1995) provides an account which suggests that voices can be seen as a reaction to intrusive experiences. They argue that rather than 'misattribution' of an internal event (an inability or mistake in attributing an

event to a cause), it is **metacognitive beliefs inconsistent with the idea of intrusive thoughts that lead to their external attribution as voices.** Their paper argues that the process of external attribution is maintained by *cognitive dissonance* and the subsequent *appraisal* of voices which lead to maintaining behaviours, thoughts and emotions. Their model is represented below :

Figure 2 : Morrison, Haddock & Tarriers (1995) model of maintenance of auditory hallucinations



Morrison et al. (1995) draw on clinical material to show the similarities in form and content between auditory hallucinations and cognitive intrusions, e.g. personal salience, sense of mental pollution, ego dystonic nature etc. Morrison (1984) had also recorded the case of a voice hearer who reported no intrusive thoughts, which would appear to be highly unusual in view of the finding that intrusions are a common experience (Rachman

& de Silva 1978, Salkovkis & Harrison 1984). In a similar way, voices may arise out of attributing ego dystonic, unwanted, or uncontrollable thoughts to an external source.

They argue that Bentall's (1990) explanation of reinforcement processes of anxiety reduction are not sufficient to explain why hallucinations continue even when the relationship between voice hearer and voice is positive. Instead they suggest that voices are maintained by cognitive dissonance. Cognitive dissonance, first proposed by Festinger (1957), is the idea that psychological discomfort arises out of 2 or more contradictory thoughts, beliefs or feelings, a state from which the individual is motivated to escape. For instance, if a person believes that all thoughts are intended, and also experiences intrusions, the attribution of such thoughts to an external source solves the dilemma, by removing personal responsibility for the thoughts. If people are unaware that thoughts may not be controllable, or if they hold beliefs that mental experience should be controllable, they may be more vulnerable to developing auditory hallucinations through the mechanism of cognitive dissonance. This suggests that individuals metacognitive beliefs about their own thought processes, including their controllability and acceptability, are important in influencing the occurrence of hearing voices.

They also predict that due to the operation of cognitive dissonance, voice hearers should exhibit higher levels of self-awareness (contributing to arousal of cognitive dissonance) (Exner 1973).

Their model would suggest that active suppression-based management strategies for voices is unlikely to be effective, and may in fact maintain symptoms, due to the fact that thought suppression induces intrusions (Wegner et al.1987) This confirms the findings of Romme & Escher (1993) and Chadwick & Birchwood (1994).

They admit that this is a 'speculative account' which could be applied to other positive symptoms of schizophrenia (e.g. thought insertion, delusions, visual hallucinations), which to date is hypothesised but not tested. One problem with their idea of cognitive dissonance is that it would actually be very difficult to elicit cognitive dissonance in action amongst voice hearers, as voices represent the solution to the problem, i.e. dissonance has been resolved by this stage. There is some question therefore as to whether this aspect of the theory is circular.

Nevertheless, there is a possibility that voice hearers will attribute negative material less internally than non-voice hearers due to the operation of cognitive dissonance.

1.11 Research Questions

Although Chadwick & Birchwood (1994) refer implicitly to the influence of metacognition through their discussion of beliefs about voices, it is possible that aspects of voices such as power, intensity, insistence and intention of voices, and even beliefs about the nature of the voices themselves, are less important and secondary aspects of voices in terms of explaining variation in level of distress. Distress is not so much caused by how insistent, powerful or negative voices are judged to be, but rather by the metacognitive beliefs held by individuals about how their minds should work, and what is normal and abnormal, rational or irrational mental experience.

This study is concerned with how distress about voice hearing might be related to higher order beliefs about how the mind ought to work. Given the findings in the literature on voice hearing and other clinical problems, important metacognitive beliefs will concern

intrusiveness of thoughts, controllability of mental experience in general, degree of personal responsibility for thoughts and voices, what is considered normal and abnormal, and attitude to negative content of thoughts and voices e.g. desired positivity of thoughts and how strong minded people think they are in coping with new or unusual experience. A key process will be how negative material is dealt with .

Fears of madness are likely to make a contribution to the individuals distress by incubating and maintaining voices in a similar way to fears of instability in Post-traumatic stress disorder (Ehlers & Steil 1995).

Given that the literature so far suggests that successful adaptation to voices involves acceptance of voices and/or internal attribution, there are several metacognitive factors which are likely to mitigate against coping and acceptance, therefore leading to higher distress.

1. **Fears of madness** or beliefs about being out of control are likely if you believe thoughts should be controllable and thoughts or voices carry with them power over the self.
2. Beliefs about what is abnormal cognitive experience for self and others.
3. Beliefs about degree of responsibility for mental experience or voices.
4. Beliefs about **strong-mindedness**/weak-mindedness of self (perceived self-efficacy) in relation to coping strategies, control of mental experience, and causation of thoughts.
5. Particular types of attributions made about thoughts and voices, especially those with negative affective content.
6. Metacognitive ability or reflectiveness (degree of Self-monitoring)

1.12 Aims :

My research is concerned with the role of metacognitive processes (thinking and beliefs about one's own thoughts) as a central factor in the maintenance of distress about voices (auditory hallucinations), and therefore in the potential for therapeutic intervention based on this understanding.

The aim of this study is to test a number of hypotheses regarding the relationship between specific aspects of metacognition and the level of distress experienced as a result of hearing voices

The specific contributions that I hope to make with this study are :

1. Adding to an elaboration of a cognitive model of voice hearing
2. Applying research findings from other clinical problems to hearing voices
3. Stressing the role of metacognition rather than cognition within the field of voice hearing.
4. Testing hypotheses from the theoretical ideas outlined by Morrison, Haddock & Tarrier (1995), particularly with respect to attributions made about voices and thoughts.

HYPOTHESES :

H1 : Metacognitive beliefs are associated with distress experienced due to hearing voices.

H1.1 People who judge hallucinatory experiences to be more abnormal for other people, will experience higher levels of distress due to voices.

H1.2 People who think that hearing voices is highly abnormal will experience higher distress due to voices.

H1.3 People who have greater fears that hearing voices means they are mad, experience higher distress due to voices.

H1.4 People who perceive themselves as weak-minded compared to others, will experience higher distress due to voices.

H1.5 Peoples' level of self-consciousness will be significantly associated with level of distress about voices.

H1.6 People who have a greater desire for positive thoughts will experience higher distress due to voices.

H1.7 People who have higher desired controllability for thoughts will experience higher distress due to voices.

H1.8 People who take less personal responsibility for their own thoughts will experience higher levels of distress due to voices.

H1.9 People who take less personal responsibility for their voices will experience higher levels of distress due to voices.

H2 : Attributional style for thoughts (internality, stability, globality) will be associated with level of distress due to hearing voices.

H2.1 People will have lower Scores on Internality of negative thoughts than internality for positive thoughts.

H3 : Metacognitive variables are better predictors of distress associated with voices than cognitive factors of malevolence, benevolence and power of voices.

METHOD :

2.1 Participants and sampling :

Participants were current users of mental health services who were also voice hearers, and were contacted through Keyworkers and Consultant Psychiatrists within Community Mental Health teams in Torbay NHS Trust. Individuals took part on a voluntary basis. Current voice hearers (i.e. heard voices within last 6 months) aged 18-65 were selected using the following inclusion and exclusion criteria :

Inclusion if :

- a) hearing voices within last 6 months
- b) in contact with services

Exclusion if :

- a) Keyworker considered individual inappropriate for study,
- b) Gross thought disorder present.
- c) Likely to be overly distressed by procedure

One of the early exclusion criteria for the study was thought disorder and cognitive deficits, and keyworker, participant or my own judgement that individuals would be adversely affected or overloaded by the research process. Nevertheless, considerable flexibility was needed over the timing, setting, and number of sessions needed to complete the interview which may have affected the reliability of results. Most people were able to complete the interview in one or two 45 minute sessions, but in a few cases data was collected over 3 to 4 sessions. No attempt was made in this study to control for the effects of medication on either responses given during interview, or on distress about

voices, but several people did respond positively to the item on the Hospital Anxiety & depression scale (HAD), which asks whether the individual 'feels that they are slowed down'. Many put this down to medication effects.

An initial estimate based on CPA (Care Programme Approach) data suggested that a population of around 300 users were registered by Keyworkers as having problems with hallucination and/or delusions in the Torbay area. From this a sample of 30 were contacted through keyworkers. Participants did not have to have a psychiatric diagnosis of Schizophrenia.

Keyworkers were CPN's, Psychiatrists, Occupational Therapists, Social Workers, Nurses, and Community support workers.

Keyworkers were contacted in 2 adult mental health teams, initially through the weekly team business, and Rehabilitation team meetings. The Keyworker information sheet was handed out to keyworkers, and individuals were asked to identify voice hearers on their caseload (see Appendix 10). Telephone and personal contact was made subsequently with individuals and case identification sheets were given to each keyworker. (see Appendix 11.) Keyworkers were asked to rate symptom distress using Health of the Nation Outcome Scales (HoNOS) and comment on suitability for the study. I then met up with each keyworker to discuss selection and initiating contact with participants.

A mixture of contact procedures were used including keyworkers arranging appointment times where their client was introduced to me, making contact directly on the telephone at home or through Day centres, and being invited along to a voice hearers group.

Interview rooms were booked through community mental health teams or appointments were made with clients to visit them.

Consent was gained from each participant using a consent form (Appendix 12) which ensured that people had read the information sheet (see Appendix 13) , were clear that they could refuse to answer any of the questions, or withdraw from the interview at any time, without any effect on services they received.

The interviewer sat alongside the participant and offered more explanation where needed at each stage of the interview.

At the end of the interview participants were asked whether they wanted the information to be passed on to their keyworker to aid ongoing work, or whether they preferred to keep the information confidential. The interviewer checked with the participant that the interview had not had any adverse effect on the individual. If the participant seemed to be at all distressed or concerned, the keyworker was informed that day.

The method using keyworkers as the main channel to reach voice hearers, was not ideal, in that I was not viewed as independent from the mental health professionals who were involved in assessment, therapy or management of participants. Care was taken at the beginning of the clinical interview, and when contact was first made, to stress that I was a researcher interested in peoples opinions about hearing voices, rather than involved in an assessment, medical or intervention role. However given that the study took place within the context and ethical guidelines of Torbay Health Authority, and the concern to provide a safe structure for researcher and participants, especially in relation to establishing trust, and providing a safety net of someone to pick up on delayed reactions

to interviewing, complete independence was difficult to achieve. Relationships between keyworkers and participants, and keyworkers and myself, were also therefore important factors in determining who took part in the study, and attitudes to the research process.

Information collected from the interview process was combined with keyworker ratings and put onto a computer database. Participants names were not recorded, but each person was given a code.

2.2 Design :

This study was based on a standardised Structured Clinical Interview which contained a mixture of standard measures, new measures, open and closed questions. It was designed to measure distress associated with voices and elicit metacognitive beliefs. A multivariate correlational analysis was carried out on the sample, beginning with a correlation matrix to screen for independent variables significantly correlated with distress about variables as suggested by Tabachnik & Fidell (1989). This was followed by a Multivariate Regression analysis of significant variables.

The study was carried out in 5 stages :

1. Developing and piloting the structured clinical interview .
2. Selecting a sample of voice hearers willing and suitable for the study.
3. Obtaining a Keyworker rating of symptom distress.
4. Data collection : administering the Structured Clinical Interview .
5. Analysis of information collected : hypothesis testing.

2.3 Setting :

Participants were interviewed mainly in Community Mental Health Centres and Day centres. Where this was not possible, they were interviewed in residential hostels or their own homes, in which case, keyworkers were asked to be present at initial interview.

Locations were chosen that were private, quiet and non-threatening, whilst providing some formality and structure. This was not so easy to achieve on home visits.

Ethical approval of the study was obtained from Torbay Health Authority by presenting the study to their Ethics Committee.

2.4 Measures :

Due to the formative nature of research into metacognition there were no established measures of metacognitive beliefs or processes. Consequently existing measures had to be adapted or new measures developed.

Structured Clinical Interview :

(see Appendix 1)

Fowler et al (1995) conclude that " Only careful and individualised assessment can capture the variability in an individual's experience of psychotic symptoms." (p.7). In keeping with this philosophy a clinical interview was developed which covered two main areas : firstly the individuals beliefs about thinking in general, and secondly, the persons beliefs about voices. The interview is a mixture of standardised, modified and newly developed measures, together with open and closed questions. It was designed to be administered in one to two 45-minute sessions. The interview was piloted on psychology assistants beforehand.

The manner in which the interview was conducted was designed to be as relaxing and non-threatening as possible, and encouraging of open discussion about voices. It was stressed that the researcher had no particular views on what voices are, but was interested in the opinions of voice hearers. Each participant was offered a cup of coffee or tea beforehand, whilst an explanation of the interview process and aims of the study was given. There was some tension between the need to collect data, and the exploration of ideas within the interview structure (see protocols for interviewing in Appendix 2).

There was a need to be flexible with time taken for interview in the light of variation in symptom severity in the client group, and the demanding nature of the task.

Measures of Distress about voices :

One of the main problems in this study was the need to measure distress specifically associated with voices, given the multiple nature of problems experienced by this client group, and the probable link between life-stressors and distress associated with voices (Clements & Turpin 1992). In a study of 55 people characterised as having 'delusional experiences', Garety & Hemsley (1987) carried out a components analysis of belief characteristics, and found 4 principal components : distress, belief strength, obtrusiveness, and concern, which they argue are indicative of separate psychological processes. I have taken the three elements making up the 'distress' component (resistance, worry, unhappiness) from the Delusions Rating Scale that they derived from this study.

1. Very much like thinking about Do not like thinking about
voices. voices at all.

2. Thinking about voices does Thinking about voices makes me
not make me worry at all, very worried.

3. Thinking about voices makes..... Thinking about voices does
me very unhappy. not make me at all unhappy.

Separate measures of anxiety and depression were taken using the Hospital Anxiety and Depression Scale (HAD), and Keyworkers were asked to measure severity of impact of voices on the individual using Health of the Nation Outcome Scales (HoNOS).

The question of how to capture self-awareness was a difficult one. The most similar established and measureable construct existing is Fenigstein et al.'s (1987) concept of 'private self consciousness', one of 3 separate aspects of self consciousness. This is defined as "a cognitive, mulling over the self" as opposed to 'public self consciousness', which is "an awareness and concern over the self as a social stimulus. ", and 'Social anxiety' (Fenigstein et al. 1987, p.525) Here self consciousness is conceptualised as a stable personality trait whereas self awareness is seen as a state of consciousness. There is some

evidence for separate constructs of private and public self-consciousness (Carver & Schreier 1981, Fenigstein et al.1987), and this is the basis of Fenigstein et al.'s Self-consciousness Scale, used in this study.
(see Appendix 3).

Launay-Slade Hallucination Scale (Launay & Slade 1985) :

The Slade-Launay Hallucination Scale (LB) and its modified form (LA) used in this study represent a continuum of experiences designed to cross a normal-abnormal boundary. It was therefore a useful measure of perceived abnormality. There are 12 items on the scale to which the individual rates the extent to which the experience referred to applies to them or not. Presence of later items on the scale is taken to be indicative of psychopathology (i.e. proneness to hallucinations) by the original authors. However, here it is used as a judgement about what is normal for the individual concerned, and what might be normal for others rather than diagnostic of psychopathology. (see Appendix 4)

Two versions of the scale were therefore used in the study : firstly the modified form (LA) was administered. Each item was prefixed with the statement : 'How normal is it for people to say ' : e.g. "No matter how hard I try to concentrate, unrelated thoughts always creep into my mind." Ratings are on a 5 -point scale (Certainly Normal to Certainly not normal).

The standard version (LB) was administered later in the interview without a prefixed statement i.e. people were being asked to rate simply whether that experience applies to them or not. Ratings are on 5 -point scale (Certainly applies to Certainly does not apply).

Peterson Attributional Style Questionnaire (ASQ) (Peterson et al. 1982)

The original Attribution Style Questionnaire(ASQ) is a 12-item measure of attributions made about hypothetical events, six of them good, six of them bad events. Subjects are asked to imagine the situation happening and to write down a cause. They then rate the causal statement on three dimensions : internal-external (Internality), Global-specific (globality), and stable-unstable (stability). Ratings are summed and averaged, so that the higher the score, the higher the rating on that dimension.

The task was modified so that participants were asked to make attributions about hypothetical thoughts, rather than events e.g. 'If you had the thought : "Be friendly to that person", what would be the reason for you having that thought ?' Then people were asked to rate that causal statement about the thought on dimensions of internality, globality and stability in the same way as the standard ASQ. The content of thoughts was divided up into 6 positive and 6 negative thoughts, and different types of thought were represented (commands (1,5), evaluations of actions (7,10), evaluations of self (12, 11), evaluations of others (9,3), memories (2,8), and thoughts about God/Devil (4,6)). The 12 items were generated from a literature review of reported case material on voice hearing, and clinical experience of the typical content of voices. Order of items generated was randomly created. The modified form of the ASQ is shown in Appendix 5.

Hospital Anxiety & Depression Scale (HAD)

The HAD (Zigmond & Snaith 1983) was used as a brief screen for background depression and anxiety, which needed to be discriminated from the measure of distress due to hearing voices.

The HAD is a 14 item questionnaire with two subscales (depression, anxiety) which is designed to measure mood over the week previous to interviewing. (see Appendix 6)

Beliefs About Voices Questionnaire (BAVQ) :

The BAVQ (Chadwick & Birchwood 1995) is a 30-item self-report measure of how people respond to their voices, and has been used in a cognitive formulation of voice hearing. The scale contains 6 items measuring malevolence of content, 6 items for benevolent content, 8 items measuring engagement with voices, 9 for resistance, and one for power of voices. Items require Yes/No responses. It also contains subscales of negative and positive affect associated with voices. Cutoff points for scoring malevolence and benevolence are 4 and 3 respectively (see Appendix 7).

Visual Analog Scales :

Visual analog scales were used in preference to Likert or semantic differential scales as they are simpler to use, and the possibility of idiosyncratic meaning of numbers or words on scale interfering with responses was avoided. Direction of agreement was randomised on the scales. 7 Visual analog scales were developed , 4 to elicit attributions about thinking, and 3 to elicit attributions about hearing voices. These were piloted on psychology assistants. (see Appendix 8).

Each item is explained in turn, and the participant is given a pen and asked to make a mark on the line to indicate the degree to which the characteristic described represented his or her experience. Individuals were encouraged to take their time over deciding on their response.

Keyworker Ratings of Distress :

Keyworkers were asked to rate the level of distress experienced by the individual due to hearing voices, using item 6 of the Health of the Nation Outcome Scales (HoNOS 1995) (see Appendix 9).

Data analysis was carried out using STATISTICA software (Statsoft).

Defaults in the multiple regression analysis were set at levels of acceptable tolerance (measure of skewness), significance levels ($p < 0.05$) and variables were excluded from model because of multicollinearity (high inter-correlation between variables) which would make the regression coefficients unstable from sample to sample.

3. RESULTS

3.1 SAMPLE CHARACTERISTICS :

Initially, 56 names were put forward by Keyworkers, of which 9 people were considered unsuitable for the study (see exclusion criteria p.26) , 10 did not want to participate, 8 could not be contacted and 4 people did not complete the interview. This left a sample of 25 people (45% of those initially proposed). Participants were aged between 19 and 59 (mean = 38) and had been hearing voices for between 1.5 to over 40 years. Most people first began to hear voices in their late teens or early twenties (Mean = 25.2 yrs, modal category = 15-20). The earliest onset experience was reported as being at 4 years old, and the latest at 56 years. Recent experience of voice hearing ranged from hearing voices during the interview to having heard them in the last year. Most people had heard voices within the last month (88%).

Keyworkers rated the severity of voice hearers' experiences on a scale of 1 to 4 (HoNOS) with 44% being rated as mild but clinically present (scored 2) ,36% moderately severe (scored 3) and 16% severe (scored 4). Mean scores on the HAD Anxiety scale (9.89) were significantly higher than mean HAD Depression scores (6.96). ($t=2.64, d=24, p=0.014$). Anxiety was clinically present in 17 people and Depression was present in 9 people, as measured by the HAD scales. (cutoff point = score of 9 on subscales).

As would be expected in a sample of voice hearers, the range of unusual or 'hallucinatory' experiences reported was much greater than that of non-clinical populations. Bentall & Slade (1985) reported a mean level of 19.4 (sd = 7.3) of

hallucinatory experiences in a sample of 150 male undergraduates compared to a mean level of 42.8(sd = 9.1) reported in this study.

The percentage of those recording 'certainly applies' to the range of experiences, compared to the results reported by Bentall & Slade (1985), is shown below :

Table 1 : % of people recording 'certainly applies'

Experience	Voice hearers in this study	Undergraduate sample*
intrusive thoughts	48%	49%
Voices speaking thoughts aloud	16%	17%
Hearing a voice and no one there	68%	15%
Heard voice of devil	28%	3%
Heard voice of God	36%	2%
Troubled by voices	76%	0%

* (Bentall & Slade 1985)

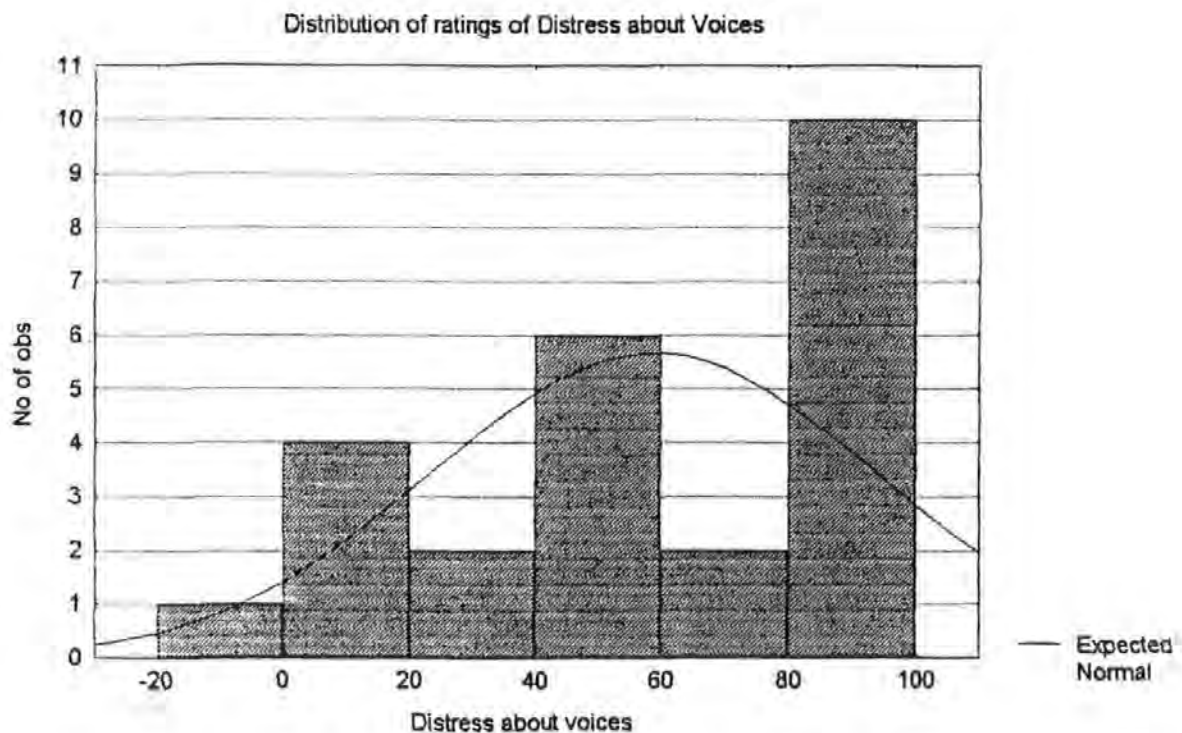
As can be seen in the table , the degree to which participants have experienced intrusive thoughts, and voices speaking their thoughts aloud is very similar to levels found in a non-clinical population. However, they have experienced hearing a voice and finding no-one there, hearing the voice of the devil or god, and generally being troubled by voices much more than Bentall & Slade's undergraduate sample.

3.2 DATA ANALYSIS :

Measurement of levels of distress(Y):

An index of level of distress (Y) was calculated by taking the mean of scores on the 3 'Distress' components of the Garety & Helmsley (1987) Delusions Rating Scale.(Max=100,Min=0). The distribution of distress scores is given below in Graph 1 showing a mean score of 58.6 and a range of 100. However the modal score is 80-100 , indicating the skewed nature of scores, with 40% of the sample scoring at the highest level of distress.

Graph 1 : Distribution of Distress in the sample :



Distress due to voices :

It was important that distress associated with voices was being measured, rather than general levels of distress (although they are likely to be associated). Table 2 below shows the inter-correlations between scores on the Distress rating (Y) and scores on the Hospital Anxiety and Depression Scale (HAD A, HAD D), ratings of severity of hearing voices by Keyworkers (Health of the Nation Outcome Scale - HoNOS), and the negative affect subscale of the Beliefs About Voices Questionnaire (BAVQ). The results show that keyworkers rating of distress, or symptom impact on the individual, correlates very poorly with subjective rating of distress ($r = 0.12$). A significant correlation between Distress and negative affect (BAVQ scores) ($r=0.55$, $p<0.05$) supports the idea that we are getting a measure of specific distress related to voices. However Distress is also significantly associated with anxiety scores (HAD A, $r=0.46$, $p<0.05$). The inter-relationship between anxiety and distress associated with voices is investigated later on through Partial correlation Analysis. (See p.54)

Table 2- Correlation between symptom distress, negative affect(BAVQ), keyworker rating (HoNOS), anxiety(HAD A) and depression (HAD D).

Measure	DISTRESS (Y)	Negative Affect (BAVQ)	HONOS - keyworker rating	HAD A (Anxiety)	HAD D (Depress
DISTRESS	1.00	0.55*	0.12	0.46*	0.20
BAVQ	0.55*	1.00	0.03	0.55*	0.17
HONOS	0.12	0.03	1.00	-0.04	0.20
HAD A	0.46*	0.55*	-0.04	1.00	0.26
HAD D	0.20	0.17	0.20	0.26	1.00

* Significant ($p<0.05$)

Support for the fact that distress is not a measure of illness severity is provided by a non-significant and low correlation ($r=-0.17$) with the number of years an individual has been hearing voices.

3.3 HYPOTHESIS TESTING :

H1 : Metacognitive beliefs are associated with distress experienced due to hearing voices.

A Correlation matrix was constructed to look at the univariate associations between measured variables and distress. This shows that a number of metacognitive variables are significantly correlated with distress due to hearing voices (Table 2). The correlation matrix can be seen in Appendix 14 showing significant and non-significant univariate correlations. Graphs of significantly correlated metacognitive variables are shown below.

H1 is therefore supported at a univariate level of analysis. Further testing of H1 is carried out at a multivariate level, later in this analysis.

Table 3 - Significant and non-significant univariate correlations of metacognitive factors with Distress

Metacognitive Factor	r	Metacognitive Factor	r	Metacognitive Factor	r
Fears of Madness	0.70*	Globalised negative thoughts	0.33	Stability of positive thoughts	0.16
Desired Positivity	0.53*	Internalised positive thoughts	-0.30	Perceived Abnormality for others	0.15
Responsibility-Voices	-0.46*	Self-consciousness	0.22	Internality of negative thoughts	0.13
Responsibility-Thoughts	-0.46*	Perceived abnormality of hearing voices	0.17	Globality of positive thoughts	0.06
Weak-mindedness	0.42*	Desired Controllability of thoughts	-0.16	Stability of negative thoughts	0.04

* = significant at $p < 0.05$

This shows that 5 metacognitive variables are significantly correlated with distress due to hearing voices. Increased Fears of madness, higher desired positivity of thoughts and perceived weak-mindedness are associated with an increase in distress. An increased degree of responsibility for thoughts and voices are associated with a decrease in distress. This is represented graphically in Appendix 15.

H1.1 People who judge hallucinatory experiences to be more abnormal for other people, will experience higher levels of distress.

Judgements about what is normal or abnormal for other people, as measured by the modified version of the Launay-Slade Hallucination Scale (LA), are not independently

correlated with distress at the univariate level.($r=0.15$) (see table 3). **H1.1 is therefore not supported at the univariate level.**

Attributions about what others experience as normal are presented below in Table 4 :

Table 4 : Experiences considered abnormal for others

Experience	Certainly Abnormal (%)	Possibly or certainly Abnormal (%)
Hearing the voice of the Devil	9 (36%)	18 (72%)
Hearing a voices speaking thoughts aloud	7 (28%)	13 (52%)
Hearing a voice and no-one there	5 (20%)	13 (52%)
Troubled by voices in head	2 (8%)	13 (52%)
Hearing voice of God	1 (4%)	9 (36%)
Intrusive thoughts	1 (4%)	6 (24%)

Their are low numbers of people scoring 'certainly' or 'possibly abnormal' for the item on intrusive thoughts The most abnormal experience is thought to be hearing the voice of the devil, (seen as much more abnormal than hearing the voice of God).

H1.2 People who think that hearing voices is highly abnormal will experience higher distress.

Ratings of abnormality of hearing voices has a low and non-significant correlation with distress due to voices ($r = 0.17$, $p > 0.05$). (see Table 3) **Therefore hypothesis 1.2 is not supported.**

H1.3 People who have greater fears that hearing voices means the are mad, experience higher distress.

Fears that hearing voices means that you are mad is the most highly correlated metacognitive variable with distress ($r = 0.70$, $p < 0.05$). (see table 3) **H2.2 is therefore supported.**

H1.4 People who perceive themselves as weak-minded compared to others, will experience higher distress.

Weak-mindedness is significantly correlated with distress due to voices ($r = 0.42$, $p < 0.05$). (see Table 3) **H1.4 is therefore supported.**

H1.5 Peoples' degree of self-monitoring will be significantly associated with levels of distress.

As can be seen in Table 3, self-consciousness does not correlate significantly with distress due to hearing voices ($r = 0.22$, $p > 0.05$). **H1.5 is not supported.**

H2.6 People who have a greater desire for positive thoughts will experience higher distress.

Ratings of desired positivity of thoughts is significantly correlated with distress due to voices ($r = 0.53$, $p < 0.05$). (see Table 3). **H2.6 is therefore supported.**

H2.7 People who have higher desired controllability for thoughts will experience higher distress.

Ratings of desired controllability of thoughts has a small negative and non-significant correlation with distress due to voices ($r = -0.16$, $p > 0.05$). **H2.7 is not supported.**

H2.8 People who take less personal responsibility for their own thoughts will experience higher levels of distress.

Ratings of degree of personal responsibility for their own thoughts is significantly and negatively correlated with distress due to voices ($r = -0.46$, $p < 0.05$) (see Table 3) **H2.8 is therefore supported.**

H2.9 People who take less personal responsibility for their voices will experience higher levels of distress.

Ratings of degree of personal responsibility for voices are significantly and negatively correlated with distress due to voices ($r = -0.46$, $p < 0.05$) (see Table 3). **H2.9 is therefore supported.**

Attributional style for thoughts :

H2 : Attributional style for thoughts (internality, stability, globality) will be associated with level of distress.

As can be seen in Table 3, attributional style in terms of internality, stability and globality for positive and negative thoughts, does not correlate significantly with distress due to hearing voices, at the univariate level. The strongest associations with distress due to voices is the degree to which negative thoughts are globalised($r = 0.33$) and the degree to which positive thoughts are internalised (a negative relationship, $r = -0.30$), however neither of these were significant **H2 is therefore not supported.**

H2.1 : People will have lower scores on internality of negative thoughts than internality of positive thoughts.

Mean scores on the modified Peterson Attributional Style Questionnaire (ASQ) for each individual were calculated for attributions about their negative and positive thoughts on 3 dimensions of Internality, Stability and Globality.(Table 5).

Table 5 :ASQ : Mean and Standard Deviation of scores

Dimension	Negative Thoughts (sd)	Positive Thoughts (sd)
Internality	4.2 (0.8)	4.3 (0.7)
Stability	4.7 (1.0)	4.7 (1.0)
Globality	4.9 (1.1)	4.9 (1.0)

Mean scores are slightly more internal, stable and global than the mid-point of the scale, and there are no significant differences in the means of the type of attributions made for positive and negative thoughts across the three dimensions. i.e. negative thoughts were

not rated as more internalised, stabilised or globalised than positive ones. (or vice versa).

H2.1 is therefore not supported.

3.4 MODEL DEVELOPMENT :

Further exploration of hypothesis 1 was carried out at a multivariate level of analysis in order to determine to what extent metacognitive variables can be used to predict distress due to voices, and the relative importance of the various metacognitive factors.

H1 : Metacognitive beliefs are associated with distress experience due to hearing voices.

A multivariate analysis of metacognitive variables was carried out using a forward stepwise method of Multiple Regression to determine the interaction of metacognitive variables in predicting distress, and the degree to which distress is predicted by the measured variables.

Model 1 : Metacognitive variables :

Initially, in order to find out whether metacognition can successfully predict symptom distress, and which variables are most important all metacognitive variables were entered into the regression analysis in a forward stepwise procedure. The following tables show the results of this analysis. Variables which contribute to predicting most of the variance in distress are added first :

Table 6 :Model 1 : Metacognitive factors predicting distress due to hearing voices.

Factor	Variance (RSq. adj)*	Change in Rsq	F	P
Step 1.fears of Madness (x_1)	0.47		22.35	<0.001
Step 2.Low Responsibility for thoughts (x_2)	0.57	0.1	16.61	<0.001
Step 3. Perceived Abnormality for others (x_3)	0.59	0.02	12.56	<0.001
Step 4. Weak-mindedness (x_4)	0.62	0.03	10.82	<0.001
Step 5. Desired Positivity (x_5)	0.64	0.02	9.64	= 0.001

* Amount of Variance accounted for, adjusted for number of regressors in model.

This forward stepwise method proposes an 8 factor model. However, given the small size of the sample, I have chosen to select a 5-factor model using the first five variables chosen (Lea 1997) The model is represented in equation form as follows :

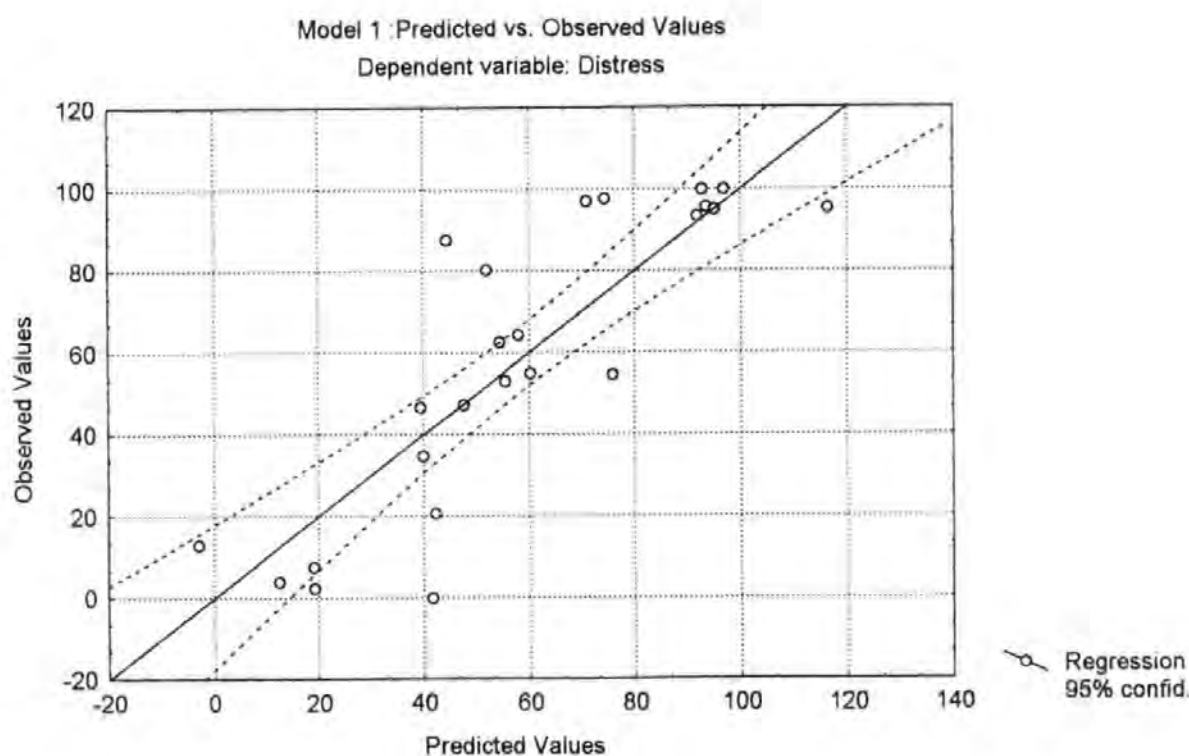
Regression Equation (Model 1):

$$Y (\text{Distress}) = -5.6 + 0.46x_1 - 0.28x_2 + 0.26x_3 + 0.24x_4 + 0.22x_5$$

where x_1 = Fears of Madness, x_2 = Responsibility for thoughts, x_3 = Perceived Abnormality for others(LA), x_4 = Weak-mindedness, x_5 = Desired Positivity of thoughts.

Taken together these five variables account for 64% of the variation in Distress($R^2_{adj} = 0.64$), which is a good fit.(Lea 1997) The regressors are also significantly associated with Distress($F(5,19) = 9.64, p < 0.001$). **Hypothesis 1 is therefore supported at the univariate and multivariate level.**

Graph 2 : Model 1 : Goodness of Fit



The model indicates that for each unit increase in level of Fears of madness and decrease in degree of responsibility for thoughts, Distress increases by 46% and 28% respectively, holding other variables constant.

Beta weights(standardised regression coefficients) indicate that Fears of madness has the most influence on Distress. All variables in the model have tolerances > 0.1 which indicates that multicollinearity, or intercorrelation between x variables, is not a problem.(Lea 1997).It also suggests that regression coefficients are relatively stable.

The relative importance of individual variables is shown below indicating which variables individually significantly predict distress due to voices, when all others are held constant.

Table 7 : Individual contribution of metacognitive variables

Variable	beta coefficient (b)*	Significance of each variable (p<0.05)	Partial Correlation**	Tolerance***
Fears of Madness	0.46	yes	0.56	0.61
Responsibility for Thoughts	-0.28	yes	-0.44	0.88
Perceived Abnormality for others	0.26	No	0.41	0.89
Weak-mindedness	0.24	No	0.36	0.75
Desired Positivity	0.22	No	0.33	0.67

* beta coefficient= relationship of each regressor to Distress in the presence of others

** Partial correlation coefficient = influence of each variable with others held constant.

*** Tolerance = degree of multicollinearity.

One case was identified as an outlier, being just over 2 standard deviations from the predicted value of distress. The case was not removed from the analysis.

The 3 factors not included in the model, but selected by the forward stepwise procedure described above, were all scores from the modified ASQ measuring attributional style for thoughts: Degree of globality of negative thoughts, internality of negative thoughts, and globality of positive thoughts (inverse relation). each added 1% to explained variance.

The results from the correlation matrix and from the multiple regression are similar in that the same 4 metacognitive variables : **fears of madness, responsibility for thoughts, positivity of thoughts and weak-mindedness**, have been highlighted. The difference at the multivariate level is now that Responsibility for voices has been dropped as a significant factor in the presence of others, and **perceptions of what is normal for other people** has been substituted (as measured by scores on the modified Launay-Slade Hallucination Scale (LA)).

H3 : Metacognitive factors are better predictors of distress due to voices, than cognitive factors of malevolence, benevolence and power of voices themselves.

(i) Cognitive variables :Beliefs About Voices Questionnaire (BAVQ) :

56% of participants described their voices as being malevolent (Mean = 3.3), 36% as benevolent (mean = 2.3), and 16% as both malevolent and benevolent. 76% said that their voices were powerful, 24% said they were not. Perceived malevolent content of voices was positively and significantly correlated with distress due to hearing voices ($r = 0.65, p < 0.05$). Perceived benevolent content of voices was negatively and significantly correlated with distress due to voices ($r = 0.60, p < 0.05$). Perceived power of voices was not significantly correlated with distress due to voices ($r = 0.04, p < 0.05$).

(ii) Multivariate analysis of metacognitive and cognitive factors :

In order to determine the relative importance of metacognitive and cognitive variables a second Multiple Regression was carried out adding the two BAVQ items (Malevolence, Benevolence) that are individually significantly correlated with distress. This increases

the Rsq. adj to 0.68 (+0.04), a 6 % increase in explained variance (68%). This minimal increase in explained variance supports the hypothesis that we can adequately explain distress using metacognitive variables alone. **Hypothesis 3 is supported.**

However, when cognitive variables are added to the analysis at an earlier stage using a forward stepwise procedure, the analysis gives the following 5 factor mixed model (model 2) which accounts for 69% of the variance and is a significant relationship ($F(5,19) = 11.8, p < 0.01$). :

$$Y (\text{Distress}) = 0.84 + 0.34x_1 - 0.31x_2 + 0.34x_3 + 0.2x_4 + 0.23x_5$$

where, x_1 = Fears of madness, x_2 = Responsibility for thoughts, x_3 = Malevolence of voice, x_4 = Perceived abnormality, x_5 = Desired positivity of thoughts.

The change in variance explained (Rsq. adj) from model 1 to model 2 is 0.05, or an increase of 8%. Model 2 has substituted the metacognitive variable of weak-mindedness (partial correlation coefficient = 0.36) for the cognitive factor of malevolence of voice content (partial correlation coefficient = 0.5).

Table 8 : Model 2 : metacognitive & cognitive factors predicting distress due to voices

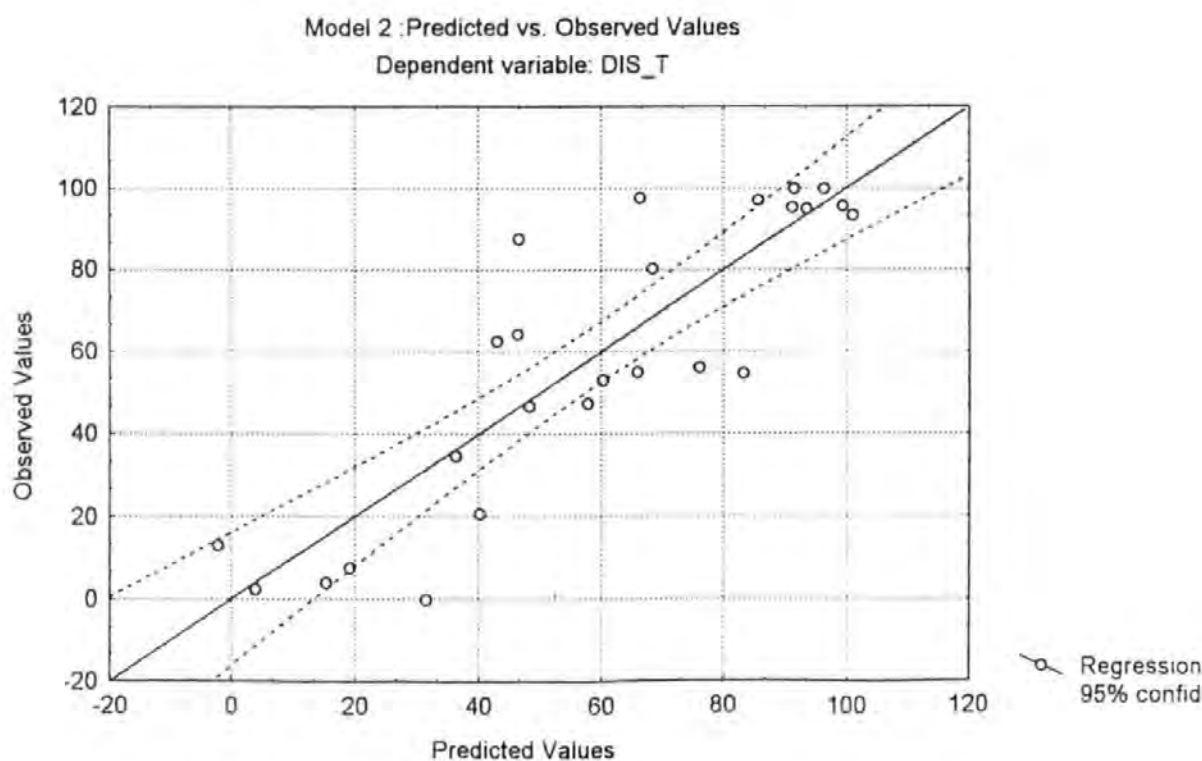
Factor	beta coefficient*	significance (p<0.05)	Partial Correlation **	Tolerance***
Fears of madness	0.34	yes	0.44	0.51
Responsibility for thoughts	-0.31	yes	-0.52	0.95
Malevolence of voice	0.34	yes	0.50	0.69
Perceived abnormality for others (LA)	0.20	no	0.37	0.99
Desired positivity of thoughts	0.23	no	0.35	0.67

* beta coefficient = influence of factor in the presence of others.

** Partial correlation = influence of factor when all others held constant

*** Tolerance = degree of multicollinearity (T> 0.1 = Low multicollinearity not a problem.

Graph 3 : Model 2 : Goodness of Fit



Normality is an important assumption that needs to be met if inferences are to be made from this sample.(Tabachnik & Fidell 1989). This is indicated by the normality of the distribution of residuals (difference between predicted and observed values) shown in Appendix 16 where we can see that the residuals are reasonably symmetrical around the mean.

3.5 Exploratory analysis of the role of anxiety :

As referred to on p. 40, Anxiety is mildly correlated with distress due to voices.

I have used partial correlation to look at the relative influence of the key factors highlighted and the degree to which anxiety is a mediating factor. The analysis is carried out in two stages : firstly the degree of correlation between each variable and distress with anxiety partialled out (Table 9); secondly, the degree of correlation between variables and anxiety, with distress partialled out.(Table 10) The results are shown below, with degree of influence of each variable described by the partial correlation coefficient :

Table 9 : Partial correlation coefficients of predictors with anxiety partialled out.

Predicted (Y)	Predictor(X)	Partial Correlation	significance	Partialled out
Distress	Fears of madness	0.63	< 0.001	Anxiety
Distress	Positivity	0.56	0.002	Anxiety
Distress	Malevolence	0.53	0.002	Anxiety
Distress	Responsibility for thoughts	-0.38	0.001	Anxiety
Distress	Perceived abnormality	0.22	0.04	Anxiety

Table 9 confirms that all five factors have a direct influence on distress associated with voices independent of anxiety. **H1 is therefore supported.**

Table 10 : Partial correlation coefficients of predictors with distress partialled out.

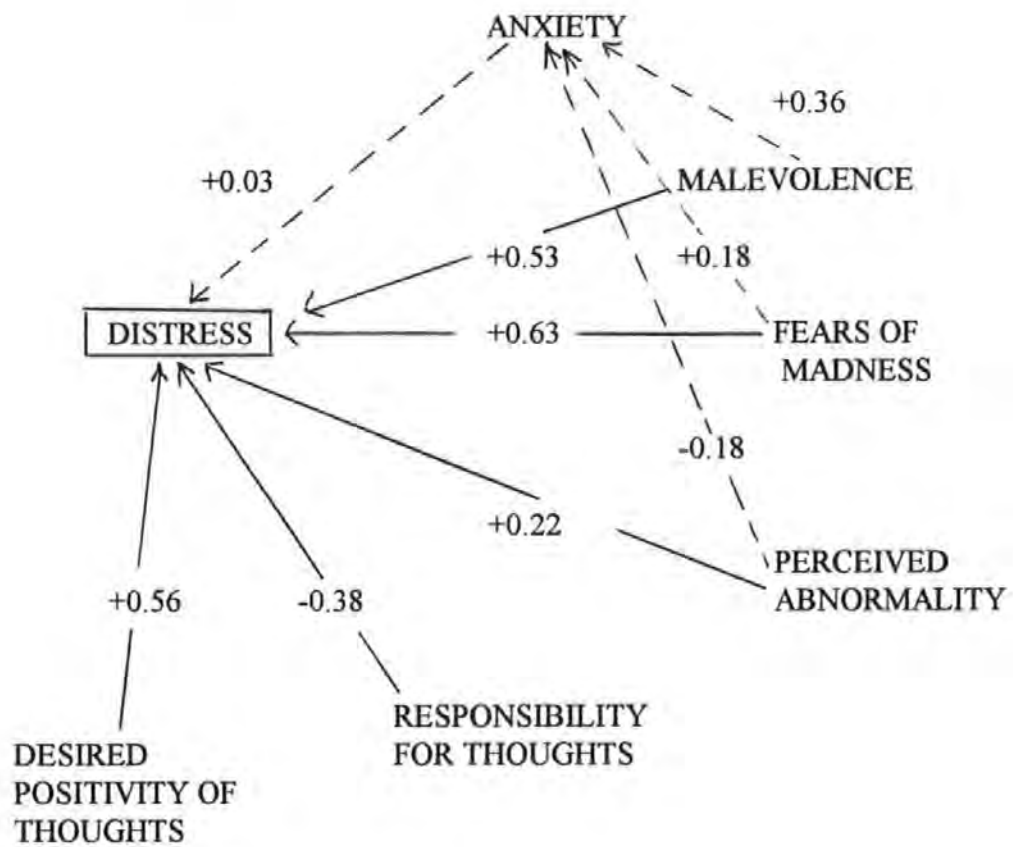
Predicted (Y)	Predictor (x)	Partial Correlation	significance	Partialled out
Anxiety	Malevolence	0.36	0.02	Distress
Anxiety	Fears of madness	0.18	0.05	Distress
Anxiety	Perceived abnormality	-0.18	0.05	Distress
Anxiety	Positivity of thoughts	-0.15	Not significant	Distress
Anxiety	Responsibility for thoughts	-0.12	Not significant	Distress

Table 10 shows that there is a small but significant association between anxiety and three of the factors in our model : malevolence, fears of madness and perceived abnormality. When the effect of all the other factors in the model are partialled out, Anxiety is hardly correlated with distress about voices (Partial correlation coefficient = 0.03).

This analysis confirms that anxiety has a small mediating influence on distress through fears of madness, perceived abnormality and malevolent content of voices. Desired positivity of thoughts and degree of responsibility for thoughts appear to operate independently of anxiety. Apart from a mediating influence, anxiety has a very small direct influence ($r=0.03$) on distress about voices.

I have represented the analysis visually in figure 3 (overleaf), to highlight important interactions:

Figure 3 : Description of Partial Correlations of metacognitive, cognitive and emotional factors involved in distress due to hearing voices.



4. DISCUSSION

4.1 SUMMARY OF FINDINGS :

The main and most important finding of this study is that metacognitive factors are significantly associated with distress about voices (H1). Furthermore, we may be able to predict variation in levels of distress about voices on the basis of metacognitive information. In this sample of voice hearers, metacognitive factors accounted for 64% of the explained variance in distress about voices.

H1	Metacognitive beliefs are associated with distress about voices	Supported at univariate and multivariate levels.
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Six metacognitive factors associated with distress about voices have been highlighted in this analysis : judged abnormality of hallucinatory experiences for others, fears of madness because of hearing voices, perceived weak-mindedness, desired positivity of thoughts, personal responsibility for thoughts, and personal responsibility for voices :

Hypothesis	Description	Supported ?	Hypothesis	Description	Supported
H1.1	Judged abnormality for others	yes	H1.6	Desired positivity of thoughts	Yes
H1.2	Abnormality for self	No	H1.7	Desired controllability of thoughts	No
H1.3	Fears of madness	Yes	H1.8	Personal responsibility for thoughts	Yes
H1.4	Perceived Weakminded	Yes	H1.9	Personal responsibility for voices	Yes
H1.5	Self-consciousness	No			

The results from the univariate (correlation matrix) and multivariate level (Multiple regression) analyses highlight the same 4 metacognitive variables : fears of madness, responsibility for thoughts, desired positivity of thoughts, and perceived weakmindedness. The difference at the multivariate level of analysis, was that responsibility for voices, was substituted in the presence of the other factors for perceived abnormality of hallucinatory experience for others.

Fears of madness :

Fears of madness as a result of voice hearing is the single most important factor predicting distress. On its' own it predicts 47% of the variance in levels of distress. Again this supports Romme & Escher (1989) and suggests that fears of madness may play a similar role in incubating and maintaining voices, in a similar way to fears of instability in post-traumatic stress disorder (Ehlers & Steil 1995).

Positivity, controllability and responsibility for thoughts :

Desired positivity, and degree of personal responsibility for thoughts is predictive of level of distress about voices. However, desired controllability of thoughts surprisingly, was not.

Personal responsibility for thoughts is correlated with personal responsibility for voices ($r= 0.5$, $p<0.05$), responsibility for thoughts being a more important factor in predicting distress than responsibility for voices. This supports the idea that metacognitive beliefs about degree of personal responsibility for thinking and other mental experiences are more important predictors than cognitive beliefs about the voices per se.

Perceived Weak-mindedness

Perceived weak-mindedness compared to others is another important metacognitive variable in predicting distress about voices.

Perceived abnormality of voice hearing :

In predicting distress about voices, judgements about what is normal for others are more important than judgements that voice hearing is abnormal for that particular individual. This supports Romme & Escher's (1989) idea about the social context of distress. The low number of people stating that experiencing intrusive thoughts was abnormal (24%) does not support Morrison et al.'s (1995) idea that voice hearers have metacognitive beliefs incompatible with intrusive thoughts.

Ratings of abnormality of experience for self of hearing a voice, was not correlated with distress about voices. This could be because it is normal for them, and that it is more important what other people think is abnormal than your own views, e.g. the way others react to you, what kind of help you will receive, whether you will be labelled with a psychiatric illness. 84% of people in the study knew other voice hearers, which is likely to decrease the likelihood of hearing voices being seen as highly abnormal.i.e. a group norm may have been created.

Self Consciousness :

Self consciousness was not significantly associated with distress about voices which is unexpected, given Frith's (1992) and Wells & Mathews (1994) theories that hearing voices reflect disorders of self awareness, and the link between likelihood of internal attributions and self awareness. The distribution of scores on the Self consciousness Scale was normal, rather than being U-shaped as Miller & Thayer (1988) would predict.

We would have predicted that a sample of voice hearers would be either higher or lower in self consciousness than the average population, given the literature. This is not the

case as can be seen from Appendix 18 .The mean level of self-consciousness found in this study, (23.5, min =0, max =40), was also close to the norms quoted by Fenigstein et al. (1975) for college men (\bar{x} = 25.9 sd = 5), and college women (\bar{x} = 26.6 sd = 5.1). Therefore voice hearers in this study did not have abnormal levels of self-consciousness. There are limitations of the measure used to measure this variable however, as is discussed below.

Attributional Style :

Attributions about thoughts and distress about voices were not associated at the univariate level, but 3 of the attributional styles, measured on the modified form of Petersons' Attributional Style Questionnaire , (globalised negative thoughts, internalised negative thoughts , globalised positive thoughts (inverse relation)) were selected by the multivariate regression analysis as the 6th, 7th and 8th factor of the predictive model. Each of these added only 1% to explained variance in level of distress, in the presence of other variables, which together with the small size of the sample, led me to drop them from the final model.

Hypothesis	Description	Supported ?
H2	Attributional style is associated with distress about voices	yes
H2.1	Voice hearers have higher levels of internality for negative thoughts	No

When mean scores on the three dimensions of attributional style (internality, globality) were calculated for negative and positive thoughts, they did not significantly differ, which casts some doubt on Morrison et al.'s (1995) hypothesis that because of operation of cognitive dissonance, internality of negative thoughts will be lower than internality of positive ones. From their theory, one would also predict that voice hearers would demonstrate less internality for negative thoughts than non-voice hearers, but this is beyond the scope of this study (i.e. there is a need for a control group of non-voice hearers to answer this).

The importance of personal salience of thoughts highlighted in the literature review, indicates that self-evaluative items on the ASQ (modified) should be more highly correlated than non-self-evaluative items. This was not the case in our study. In fact the only significant correlations between individual items on the modified ASQ were an inverse relation with good commands and a positive relation with good evaluation of others. This may indicate the importance of self-evaluation as a comparative process (i.e. it is your good evaluation of others that matters versus evaluation of self) rather than the activation of 'core beliefs' such as 'I am a bad person' (item 11, on the ASQ).

Cognitive beliefs about voices, represented by measures of malevolent and benevolent content of voices, were significantly correlated at the univariate level, but only malevolence was predictive of level of distress, according to the second multivariate regression analysis. Nevertheless, adding the two cognitive content factors (malevolence, benevolence) to the regression procedure, only increased explained variance in distress levels by 6%, supporting our third main hypothesis that metacognitive variables may be more important than cognitive ones in explaining distress about voices (H3)

H3	Metacognitive variables are more important than cognitive ones in predicting distress about voices	supported at the multivariate level.
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Nevertheless, the final model chosen was a mixed model which included degree of malevolence of voice content, and the 4 metacognitive factors, consistently highlighted throughout the analysis (Fears of madness, responsibility for thoughts, weakmindedness and perceived abnormality of hallucinatory experiences for others). This model explained 69% of the variance in distress about voices. This model was chosen as it seemed theoretically premature and clinically imprudent to suggest a purely metacognitive model at this stage. Our exploratory analysis also suggests that anxiety has a small but significant mediating role to play in two of the metacognitive factors (Fears of madness and perceived abnormality for others) and the cognitive factor of malevolence of voice content.

Although 76% of the sample said their voices were powerful, this cognitive variable was not significantly correlated with distress about voices. There are considerable problems with the validity of this measure in the BAVQ as will be discussed later, but this result indicates that 'omnipotence' of voices is not the most important belief dimension in accounting for distress.

4.2. Methodological and interpretative issues :

There were several challenges in designing this study with voice hearers : Firstly, the multiple nature of problems and sources of distress which voice hearers experience led to a number of problems: practically I had considerable difficulty in establishing contact with people who were willing to take part in the study. This was as much to do with concerns that Keyworkers had about the ability of individuals, and outcome of participation with respect to ongoing clinical work, as reluctance on the part of voice hearers. Generally, once contact was made, the outcome was very positive, (only 4 people did not want to complete the interview), and many people reported that the conversations generated by the interview were interesting and helpful. Secondly, conceptually, there were difficulties in defining and discriminating the concept of distress due to hearing voices, given other sources of distress. This was addressed at the beginning of the data analysis. Thirdly there was some concern over the high cognitive and emotional effort nature of the tasks involved in studying metacognition (especially the number of tasks, and the modified version of the Attributional style questionnaire), as well as the nature of content of questions concerning voices.

The fact that the sample was more representative of voice hearers who were experiencing higher levels of distress (40% scoring 80-100% levels of distress), was reflective of the setting for the study i.e. community mental health teams and residential homes, rather than voice hearers in the non-clinical population. An attempt to overcome this problem was made by recruiting participants through a voice hearers group. These cases did not appear as outliers in the regression analysis indicating that they were suitable participants for the study.

The issue of contact with other voice hearers and whether this was an influence on levels of distress was not explored in detail, but was addressed in the interview : 21 (84%) people knew others who hear voices, although 'knowing others' is likely to have a different effect on people to actually being engaged in a hearing voices group with its more explicitly supportive and normative role. (Romme & Escher 1989).

It would have been interesting, though more difficult and time consuming, to contact people who were not in contact with mental health services. This could have yielded more information about the differences between levels of distress experienced amongst voice hearers, and could have acted as a control or comparative group. To some extent, by definition as voice hearers in contact with keyworkers, the individuals in this study are experiencing problems and higher levels of distress due to voices.

This implies that my findings could be more reflective of voice hearers who experience higher levels of distress, that finer levels of predictive discrimination are being required of the regression model, that the normality assumption for the dependent variable (distress) was violated to some extent, or that the model will not generalise to those experiencing lower levels of distress. An analysis of the distribution of the residuals of both regression models (model 1 and 2), indicated that the normality assumption of the regression model had not been violated.

The difference between keyworker & participant ratings of distress due to hearing voices is an important issue given that case management is so influenced by Keyworker ratings. There are several reasons why this might be so : the keyworker rating is more of a judgement about impact of symptoms on a persons adaptive functioning (HoNOS 1995),

whereas I was asking specifically about levels of worry, unhappiness and distress caused by thinking about voices (i.e. a less global measure) ; the relationship between myself and the participant, and keyworker and participant was very different (I had worked previously with only one participant.) Together with the difference in role and style of interaction of the researcher and keyworker, this may have resulted in different elicited ratings of distress; and of course the difference may reflect a difference of opinion about impact of voices on the voice hearer.

Limitations of regression techniques :

The major conceptual limitation of all regression techniques is that one can only ascertain relationships between variables, rather than making clear statements about causal mechanisms. Therefore the outline of metacognitive, cognitive and emotional factors involved in determining distress about voices, as presented in figure 2, should be regarded as more of a description or input path analysis model, than a model of causal pathways. Further analysis and a different research design would be needed to do this.

Multiple Regression is an example of the General Linear Model and therefore makes assumptions about the linearity and normality of distributions of variables. The distribution of some of the variables used in the multiple regression are not normally distributed, i.e. they are positively or negatively skewed. However following guidance from Tabachnik & Fidell (1989, p.72) the normality of individual distributions of independent variables is less important than the normality of the distribution of residuals in the multivariate model chosen. The normality assumption is supported in both model 1 and 2 from this point of view. Transformations of data are not necessarily recommended because of the difficulties in interpreting results.

Case 15 was an outlier in both models, being 2.1 sds from the predicted value., but the usual default is 3 standard deviations (Tabachnik & Fidell 1989). Outliers can be an indicator of the type of case for which the model does not generalise, or errors in measurement. On examining case 15, I could not see an obvious reason why she was a different case.

Low number of observations is also a limit to the present study. Statistically speaking, the ideal ratio of cases to variables used is 10-20 so that the regression line is stable (Statistica manual). This is an ideal which has been modified in clinical work to a rule of thumb of 5 cases per variable (Lea 1997), which is the case in this study. The claims made with respect to the regression models would therefore be strengthened by interviewing more people, or reducing the number of variables initially identified for data analysis. Given that this was an exploratory study I did not want to narrow the potentially important aspects of metacognition related to distress about voices.

Inferential statistical methods rely on an assumption that samples are selected randomly from a background population (In this case the population of 300 voice hearers initially identified). The sample used in this study were identified through keyworkers which was not ideal. There were not enough participants identified in the time available, to allow a more sophisticated selection method without seriously compromising the research design.

Limitations of measures used :

Because this is a relatively new area of research existing standardised measures had to be adapted or proved to be inadequate, and new measures were developed in some cases which introduced various difficulties :

Structured Clinical Interview :

The structured clinical interview proved to be a flexible tool for eliciting a rich variation of formal and informal responses from voice hearers. Although it was relatively long and demanding, in terms of the number of questions and measures presented to the individual, and time needed, it allowed for a graded and full discussion of the nature of voice hearing which in many cases was enjoyable for both people involved.

To some extent it mimicked the format of a normal clinical session and therefore elicited lots of interesting and useful material that could not be incorporated into the final study.

The distinction may have got blurred sometimes and the researcher role was uncomfortable and seemed to objectify personal disclosures, which perhaps could have been avoided if a qualitative approach had been decided upon.

Attempts were made to avoid pressure to do the interview at various stages of the process and there were several opportunities to stop the process. Most people were happy to talk to me given that 60% of the people I talked to felt that they had not been told anything about voices or given an opportunity to talk about them in detail.

Other Measures :

The measure of self-monitoring used in this study was not related to level of distress about voices, nor was it correlated with any other measure, except the length of time a

person had been hearing voices ($r=0.56$, $p<0.05$), which was unexpected given its clinical relevance. This can be explained by a number of factors : any conclusion based on measures of the Fenigstein et al (1975) private self-consciousness scale are limited by doubts over the construct validity of the scale. The basic 3 factor structure has been criticised recently, and the conceptual framework of the scale must be questioned given studies that have found inter-correlations between factors. Also, the language used in the scale tends to be either vague ("I am often the subject of my own fantasies") or unnecessarily over-intellectual (e.g. "I'm generally attentive to my inner feelings") which caused administration problems.

In his critique of the concept of self-consciousness, Russell (1996) has suggested a more complex and dynamic phase model of self-consciousness, reflecting a process which is activated in socially evaluative situations.

In retrospect, given the absence of a validated measurement of self-focus to date, I should have concentrated on a measure of negative self-evaluation, (comparison of self to some internal standard) which is so clearly central to an account of emotional problems. For instance, by using items from the Dysfunctional Attitudes Scale (Beck & Weissman 1978), or Young's Schema focussed Questionnaire (1990). I did initially consider these, but felt that the clinical interview would have been too long and arduous if I had added them.

Much of the language contained in the Launay-Slade Hallucination Scale (LB) is outdated and vague. For instance several of the items refer to hearing sounds, or seeing people in 'daydreams', which is not clearly explained or operationalised in the original paper (Launay & Slade 1981). Several participants asked what daydreams were exactly,

and I was unclear myself about what the authors meant. In an area that is trying to make clear distinctions between voices, intrusions, thoughts, memories etc. it was not helpful to have this ambiguity about different types of mental experience.

Only 76% of people reported that they were troubled by hearing voices in the modified version of the Launay-Slade Hallucination Scale (LA) . This may reflect a different use of language amongst voice hearers and those that constructed the scale, or different theories of what the other 24% are experiencing, especially as the wording of the Slade-Launay is prejudicial in that it uses the phrase "hearing voices in my head". i.e. does not necessarily include people who hear voices but consider them to be outside their heads.

For instance, in this study 32% of people believed that voices came from outside of their heads, and 60% believed voices came from outside of themselves.

The modified version of the ASQ that was used had a number of associated difficulties : firstly it was quite arduous for people to complete demanding considerable manipulation of thoughts, and the ability to see thoughts from different perspectives (in that sense it really was a higher-order, almost Piagetian task of perspective taking). Its usefulness depended on people being able to understand the task of making attributions about various hypothetical thoughts, rather than attributions about the particular situation in which the thought was likely to arise. This was a subtle distinction that I don't think some people were able to sustain throughout the length of the ASQ. I had to give people considerable help so that they understood the task, which added to the danger of me influencing the responses Secondly, it proved to be fairly emotive, and peoples' frequent reaction to the items, especially thoughts with negative content (e.g. 'You have the thought : "Hit that person")', was "But I wouldn't do that !". Equally, in response to the

more positive hypothetical thoughts e.g. "God loves me", and "I am a special person", people found it difficult to imagine even having the thought in the first place. Thirdly, because I used a modified version of the ASQ, I could not use the results of Peterson et al.'s (1982) study on undergraduate populations as a comparison, as the scales were no longer comparable.

There were also problems in interpreting the results of the Beliefs about voices questionnaire (BAVQ) (Chadwick & Birchwood 1994). Although it has been designed specifically for use with voice hearers and was more easy to use than many of the other measures used in the interview, individuals' answers did not fall so easily into a Yes/No category imposed by the scale. For instance, item 8 which asks whether voices are helping the person to develop special powers or abilities, was not a straightforward question to answer for people, and was related to their personal theories of the function of voices. Many people were uncertain or open about some of the items, and could not say categorically yes or no. This is further complicated by the fact that voice hearers rarely hear one consistent voice, with a constant nature, but several voices, with different natures, which may interact e.g. in one case to protect the voice hearer (benevolent) from comments made by the other voices (malevolent). Similarly the scale assumes that affective response to voices is constant and predictable rather than changeable with respect to different voices or situations.

The idea of 'omnipotence' of voices, which is a central idea in Chadwick & Birchwood's (1994) theory of voice hearing, is measured by one item only, amongst a 30-item scale, ("My voice is very powerful"). This seems to be too simplistic a measure of the structure

of an individual's power relationship to their voices, as is suggested by the importance of perceived weak-mindedness in predicting distress.

The Visual Analogs scales used to measure 7 aspects of metacognition worked well in that they were easy to understand and use, and elicited a discriminatory measure of people's thinking. However, the same criticism of Chadwick & Birchwood's use of one item to construct an important part of a theory or model of voices could be aimed at the visual analog scales used in this study. There was only one measure made of what turned out to be important aspects of metacognition e.g. desired positivity of thoughts, perceived weak-mindedness. This was mainly due to the exploratory nature of the research, and the sacrifice of depth to breadth that this involved in the initial screening for significant metacognitive factors.

4.3 Theoretical implications :

There are three main theoretical ideas that were supported in this study: Firstly, that distress about hearing voices is not necessarily related to the occurrence of voices per se, even though this in itself tends to be an unexpected and novel event which demands considerable personal resources, but that distress arises out of their interpretation in a negative way. Secondly, that metacognitive beliefs, rather than cognitive beliefs, or a general cognitive deficit, appear to be generating distress. Thirdly, that metacognitive beliefs about what is normative about thoughts and other types of mental experience, are likely to influence appraisal and hence distress about hearing voices. Therefore, distress about hearing voices is likely to be determined at the metacognitive level.

The findings also lend support to the idea that there are common metacognitive processes that underlie a range of psychological disorders (Bentall 1990, Frith 1992, Wells & Mathews 1994).

Evidence of the importance of the role of metacognition has a number of theoretical implications. Firstly, the initial experience of a potentially distressing event like a voice, may be interpreted through the medium of metacognitive beliefs concerning mental experience in general for self and others. These beliefs will be based on knowledge and experience of other thought forms (e.g. intrusive thoughts, inner speech) and ideas about the way the mind works. Whether the various metacognitive beliefs amount to an individual theory of mind is beyond the scope of the study, but is not an unreasonable suggestion.

Metacognition therefore is involved in the formation and cause of beliefs about voices. Separate elements of metacognition eventually operate through cognitive processes lower down the cognitive system e.g. attribution of locus of voices, nature of voice content (e.g. malevolence/benevolence, power etc.), but response to voices is structured at a higher level of processing.

Secondly metacognition is likely to be involved in the development of coping strategies, adaptive or maladaptive. Therefore it is at the metacognitive level that psychological intervention should be aimed.

There are several aspects of metacognition which were highlighted in this study as likely to be involved in creating distress about voices :

Fears of madness was the most important single metacognitive factor in predicting level of distress. This supports Romme & Escher's (1989) findings. What is now needed is more detail about why this attribution is made, and the interaction of individual and social factors leading to fears of madness as a result of hearing voices. Prevailing cultural beliefs (social influence) have been that voice hearers are mad, and voice hearing is often seen as a sign of psychoticism (madness) by psychiatric diagnoses.

Desired positivity of thoughts and mental experience in general appears to be related to distress about voices. There are several conclusions one might draw from the importance of this aspect of metacognition : one is that it denotes a general intolerance of negative material because of beliefs that it is harmful, unhelpful, or irrational , as Salkovskis (1989) would suggest occurs in obsessional-compulsive disorder. Alternatively, it could be the ego dystonic nature of the experience that leads to distress, and possible attribution of intrusive mental events as voices as Morrison, Haddock & Tarrier (1995) suggest. Desired positivity of thoughts may also be a reaction to malevolent content of voices i.e. it is a mental coping strategy which is seen as balancing and protective of mental health. As Wegner et al. (1987) have demonstrated, if desired positivity of thoughts is also an attempt to suppress negative thoughts, then it is unlikely to work, and will probably lead to greater intrusion of negative thoughts, perceptions of failure to cope, and hence distress.

Weak-mindedness or a lack of perceived self-efficacy in relation to others was another important metacognitive belief likely to be generative of distress. This is similar to the finding from studies of anxiety disorders which indicate that beliefs are held about

impairment in natural coping resources (Wells & Mathews 1994). This may be compounded by the prevailing model of schizophrenia as a biochemical imbalance or deficit in the brain. Deficit theories of schizophrenia, whether biological or psychological, may impose the need for compensation and hyper-vigilance to voices or unusual experience, greater anticipation of threat, and increased rehearsing of coping strategies amongst voice hearers. If people perceive themselves as vulnerable to external influence or weak in relation to voices, as a result of metacognitive beliefs about weakmindedness, they are likely to cope less well (Romme & Escher 1995) and experience more distress. Beliefs about weak-mindedness may be linked to beliefs about self-efficacy in general and self-esteem.

Perceived abnormality of hallucinatory experiences for others was also an important influence on distress. This is likely to operate through comparative processes of own experience versus others experience, defining what is believed to be normal for self and others.

Responsibility for thoughts is negatively correlated with distress about voices suggesting that the greater the amount of personal responsibility for thoughts (and to a lesser extent voices) the lower the level of distress (unlike in obsessive-compulsive disorder). This also supports the main idea behind cognitive therapy which is that internal attribution is necessary to lower distress, and Romme & Escher's (1989) idea that successful coping is linked to acceptance of voices as a part of the self.

Desired controllability of thoughts did not appear to be as important as other metacognitive beliefs in determining distress levels. This appears counter-intuitive given

that metacognition is so centrally involved in mental control, and the effects of attempted thought suppression on distress. This could be due to the skewed nature of the sample, or the fact that people responded to the statement not in terms of their desire for control over thoughts, but their experience of controlling thoughts. There is an interesting comment made by Rachman (1981) on the subject of control and attributions about thoughts :

" Recognition of the occurrence of a degree of wilful independence of 'normal' thoughts may result in the distinction between normal and pathological processes resting mainly in the attributed source of the thought, rather than the degree of control which the thinker has over his own processes." (Rachman 1981, p.89).

Hence it is in the attributions made about thoughts or voices that distress lies rather than degree of perceived or desired control of mental processes.

Alternatively, the aspect of mental control may be a masked or 'latent' variable in the regression analysis, in that it is accounted for by other variables e.g. responsibility for thoughts & voices (control over causation), and desired positivity (control over content of thoughts). Desired controllability is significantly correlated with responsibility of thoughts ($r=0.55, p<0.05$) which supports this idea. Desired control of thoughts is however significantly correlated with depression, as measured by the HAD scale in this sample, which may indicate a different cognitive-emotional outcome for this particular metacognitive belief.

Perhaps I should have asked in more detail about control over voices, and beliefs about controllability developed from appraisal of onset of voices. The issue of control is also linked to peoples' responses to questions about whether they experienced intrusive thoughts, which by their definition are uncontrollable thoughts. Desire for control over these thoughts will also be expressed to some extent in whether they consider them to be abnormal or not.

A Metacognitive account of voices :

Morrison et al.(1995) hypothesise that voices are a reaction to intrusive experiences through the mechanism of metacognitive beliefs incompatible with the existence or normality of intrusive thoughts. Hence a process of external attribution of intrusions occurs so that they are interpreted as voices. This process is supposed to be maintained by cognitive dissonance.

The low numbers of people scoring 'certainly' or 'possibly abnormal' for the item on intrusive thoughts in the Launay-Slade Hallucination Scale (LA) does not support Morrison's hypothesis that voice hearers hold beliefs incompatible with intrusive thoughts. Responses showed that 48% of voice hearers said they had intrusive thoughts which is very close to findings in non-clinical populations.

Given that beliefs about intrusions do not appear to be different from general population Morrison et al.s (1995) theory of cognitive dissonance needs to be questioned. Perhaps the occurrence of intrusions in themselves (and their content) produce enough psychological discomfort to explain motivation to externally attribute.

The idea that voice hearers would rather attribute intrusions to voices with their associated distress, social stigma, and links to psychiatric illness, rather than see them as intrusions, seems an extreme view to take.

We also expected to find greater external attribution of negative thoughts given that we assumed that these would be ego dystonic. But what we did not account for was the fact that positive thoughts may be ego dystonic for some people i.e. those with low self-esteem, or low perceived self-efficacy.

One testable hypothesis implied by Morrison et al. (1995) is that intrusions will not occur in the same *content domains* as voices. This may account for openness to normality of intrusions in general. Certainly intrusions have similar characteristics to voices, but the hypothesis that they are the same processes has proved more difficult to test.

Morrison et al. (1995) suggest that anxiety as a reinforcement process would not be enough to maintain voices, given that many people have positive relationship with voices, whereas Bentall argues that reinforcement processes occur to facilitate misattribution. He suggests that these may be heightened anxiety over negative thoughts about self.

The model suggested by this study shows that anxiety is related to several aspects of metacognition, as well as malevolence of voices, which supports Bentall's view, and explains why anxiety may operate even if content of voices is positive.

Romme & Escher (1995) describe those who cope less well as "experiencing" voices as negative or aggressive, which is more complex than Chadwick & Birchwood's (1994) idea of malevolence. Our study has shown that whether voices are experienced in a

negative, positive or neutral way, lies in their appraisal, individual ideas about how the mind works, and normative expectations about what is acceptable or not.

Romme & Escher (1996) question the wisdom of intervention with voices per se if indeed they are a form of 'survival strategy' rather than a symptom. i.e. it has a functional role in coping with problems in the persons life history or living circumstances. Some of the voice hearers in this study appeared to see their voices in a similar way, but it was not an explicit question asked.

The findings of this study support Romme & Escher's idea that alleviation of distress lies in the search for meaning of voices, and personal theories about voices, but these are determined at the metacognitive level. The Socio-cultural context of metacognition is also important in that what is expected, the norm, about mental experience is historically and culturally variable (Parker 1995).

From our results we cannot conclude that metacognitive beliefs about voices are the sole important factor mediating distress about voices. Rather we would suggest that a metacognitive account could equally, if not more successfully explain level of distress about voices. Also it is not power or omnipotence of voices that is crucial, but power of voice hearer (self) in relation to voices, perceived resources to cope that should be highlighted.

Chadwick & Birchwood (1994) in their analysis of voice content, beliefs and response to voices, found that voice hearers found meaning in their malevolent and benevolent voice content. Malevolence was related to punishment for previous behaviour or undeserved

persecution, whereas benevolence was seen as voices being protective of mental health, protection from other malevolent voices, advisory or empowering nature of voices, or of general interest to the individual. I found a similar range of explanations of voices, however, the model developed in this study would suggest that benevolence of voices is in reality not protective of mental health, i.e. it does not protect them from distress. I also found a significant proportion of people who were uncertain or ambivalent about the nature and meaning of voices.

The lack of findings relating to self-monitoring or self-awareness was disappointing given its importance in theoretical accounts of emotional disorder (Wells & Mathews 1994). I have to conclude that this study did not use a good enough measure of a complex process. This highlights a general problem with attempts to elaborate Cognitive Theory in this area which is that different types of mental experience are still poorly differentiated at a theoretical level. (Wells & Mathews 1994). Differences tend to be elaborated at a qualitative level only. This is amplified by the early stage of theorising about metacognition, self-attentional processes, and lack of integration between cognitive models and clinical practice.

Wells & Matthews (1994) conclude that " Clinical progress requires more detailed causal hypotheses about attention and emotion." (p.13). However, as they caution " There is no royal road to demonstrating causality in this research area, because the researcher never has more than partial control over the subjects ' internal processing."

Hot and cold metacognitions :

Given that we know that emotion and information-processing interact (Bowers 1981, Lazarus & Folkman 1984, Strongman 1987), one of the ways of interpreting the findings of this study is to see those metacognitions and cognitive beliefs highlighted as predictive of distress, as hot rather than cold metacognitions.

The role of emotion has become more important in the newer cognitive formulations of psychosis. e.g. Bentall's theory of paranoia as masked depression. Chadwick & Birchwood (1994) suggested that "behaviour and affect weaken or strengthen beliefs." (p.200). From our findings we might hypothesise that those metacognitive factors related to anxiety, are hot cognitions (Malevolence, perceived abnormality of voice experiences for others, fears of madness), and those that aren't, are cold ones (responsibility for thoughts, desired positivity). Wording of some of the visual analogs was probably more likely to activate hot cognitions e.g. 'Hearing voices means that I am mad'.

In their plans for future research, Morrison et al. (1995) suggest that emotional valence of stimulus words might be important when looking at external attributions of verbal thoughts. This is also likely to be related to personal salience of voices. The fact that anxiety affects selective attention, the interpretation of ambiguity, and threat appraisal (Eysenck 1992), suggests that the role of anxiety is important in maintaining distress about voices.

Problems with major assumptions of the cognitive model :

The Cognitive model depends on an assumption of rationality of thinking. This has been recently disputed, and there is a question of how applicable this is given that unusual experiences may result in unusual conclusions.

Hurlburt (1990) goes further in saying that people with schizophrenia are displaying a general abnormality in awareness and conscious experience. On the basis of a small case study of schizophrenic patients he suggests that they had difficulties in switching to an introspective mode, and that content of consciousness when expressed was "somewhat abnormal" (p.156 Frith 1994). To date this is an under-researched area and findings are somewhat vague.

The quality of introspective information found in this study seems to dispute Hurlburt's assertion that people with schizophrenia find difficulty switching to introspective mode, nor do their responses seem abnormal in terms of meaning and relevance. (Not all of voice hearers in this study had a diagnosis of schizophrenia).

The idea of cognitive dissonance has been questioned more recently by a developing discursive view of mind (Harre & Gillett 1995) which suggests that we can hold contradictory ideas in mind, and that this may in fact be the norm.

Because this area of study is concerned with definitions of normality we tend to run into problems of language being used in a disempowering and disrespectful way . One of the dangers of the cognitive approach is that it replaces the language of psychiatric labelling with the language of psychopathology, which can be equally damaging (Parker et al.

1995) Along with checks from Social Psychology, the *symptom approach* has been one of the ways out of this dilemma (Bentall 1990), although there is still much talk of 'deficits' and 'abnormal processing' in the literature.

4.4. Implications for clinical practice :

The findings from this study suggest that existing methods of belief modification which are aimed at core beliefs about the nature of voices, would not alter metacognitive beliefs or processes involved in mediating distress about voices. Cognitive therapy should be more concerned therefore with normalising, exploring expectations and beliefs about thinking.

Our findings suggest a greater role for self-efficacy in relation to voices and potential for enhancing self-esteem, and challenging beliefs about weak-mindedness.

Providing information about what we know about how common intrusions and unwanted, uncontrollable thoughts occur, would lower cognitive dissonance. i.e. this would alter appraisal of voices and normalise the experience.

Eliciting and modifying beliefs about the meaning of their symptoms, would be more important than beliefs about voices per se. Presenting alternative hypothetical explanations of what is causing voices, and modifying metacognitive beliefs concerning controlability and normality of mental experience, e.g. challenging 'should' statements would be important.

Schema theory proposes stable declarative self-knowledge such as "I am weak", whereas Wells & Mathews (1994) idea implies metacognitive beliefs are a procedural outcome, and hence greater variability of metacognitive beliefs might be expected. Given the importance of anxiety, it would not be helpful to challenge declarative beliefs as the patient may afterwards logically know that the belief is wrong but *feel* that it is right., i.e. the emotional status of the procedure has not been challenged, and so would over-ride the intellectual re-appraisal of beliefs. If metacognitive beliefs are the most important mediator of distress then we need to develop a 'metacognitive therapy'. Wells & Mathews suggest that "metacognitive detachment from thoughts while maintaining objective awareness of them." (p.305) would be required - a kind of 'disconnected mindfulness', a kind of observation of thoughts without active control, which does not trigger the full dysfunctional procedures. Roger et al (1993) refer to the idea of detached processing within therapy as a more adaptive strategy than emotional coping or avoidance.

We may need to think about different questions to ask in therapy : so rather than looking for errors in thinking we might ask how people form judgements on mental experience, and what sort of evidence they look for, or what is most salient, i.e. We need to explore the dynamics of metacognitive processing and formation of beliefs. A metacognitive therapy would also be useful in highlighting maladaptive strategies. e.g. counteracting metacognitive beliefs about weak-mindedness, (we might challenge the idea that they are more vulnerable than others, or do not cope well with voices), or desiring only positive thoughts

Metacognitive therapy would have an educative role in modifying self-knowledge, which would facilitate metacognitive awareness, alter appraisal processes and free up resources for disconfirmatory processing and modification of beliefs. In particular ideas about normal and abnormal mental experience, causation and control of thinking could be explored.

One area that still remains problematic is the main aim of therapy stated by Chadwick & Birchwood (1994) (p.199) : " if therapy is successful, the person inevitably will come to see the voices as self-generated." Given the importance of fears of madness in determining distress about voices, forced internal attribution of that which is associated with madness may be counter-productive. External attribution may be an adaptive defence for some people. The way in which positive and negative material is appraised and integrated with self-concept needs further illumination, so that we do not make simplistic assumptions about for instance, what is ego dystonic for a given individual.

We also need to pay attention to our own reactions to and preconceptions about voices and voice hearers. Voices per se are not a sign of madness, as traditional theories might suggest. It is their interpretation by voice hearer and significant others, that determines pathology. We also need to be aware of the influence of deficit theories of voice hearing on coping, and to be open to other theories so that we do not reinforce metacognitive beliefs about positivity, fears of madness, perceived weakmindedness and control strategies.

4.5 Recommendations for future research :

As an extension of multiple regression analysis, Path Analysis could have been used to evaluate causal hypotheses. The size of sample would have to be increased for this, and clear directional hypotheses which were not useful at the exploratory stage of research (Lea 1997). Path analysis is not appropriate however if feedback loops are hypothesised, which is likely to be the case with fears of madness, perceived abnormality and anxiety.

Discriminant analysis could be used to determine factors that predict high and low distress. Do people fall into distinct groups (high or low) with respect to distress, or do they lie on a continuum ? Factor analysis would be useful in ensuring that are we measuring metacognition.

From the analysis so far we can discriminate at least 4 different types of mental processes which may mediate distress experienced :

- i) Beliefs about the nature of thoughts (metacognitive)
- ii) Beliefs about the nature of voice hearing (metacognitive)
- iii) Beliefs /attributions about others experiences of normality and abnormality (metacognitive)
- iv) Beliefs about the voices themselves, especially whether they are perceived as malevolent or not. (cognitive)

Further analysis could allow the development of a scale of metacognitive factors to be used in therapeutic situation.

Qualitative analysis and insights from cognitive theory could be combined to look for the existence of specific content domains for voices as in depression (loss, failure, self-evaluation) (Beck et al. 1987), Obsessions and worries (contamination, personal responsibility, harmful outcome) ,and Anxiety (Wells & Mathews 1994).

The importance of metacognitive variables in comparison with other non-cognitive factors associated with distress e.g. age, gender, chronicity, life stressors, need to be explored. We did measure some of these, but felt that their analysis was beyond the scope of the present study. Using univariate correlation age, gender, severity (HoNOS) and length of hearing voices were not significantly correlated. However, there are likely to be a range of social factors involved. Metacognitive beliefs develop within a social context : metacognitive knowledge is influenced by reading, theories told to voice hearers by others (other voice hearers, mental health workers), and prevalent ideas about thinking. Qualitative analysis of personal theories of voices would be useful in eliciting these variables.

In their sample of 20 people Romme & Escher (1995) found 4 main theories of voices : gods or spirits (50%), as a good guide (25%), as people you know (15%), as a special gift (46%). Whilst they emphasise the individual nature of frames of reference : " it became clear that there are a great many frames of reference used" (p.213). the only one which was related to poorer coping was seeing the voice as people you know. The three others were associated with good coping. This again highlights the danger of the cognitive paradigm destroying adaptive mental strategies. Romme & Escher suggest that we pay more attention to the language that people use about their voices to reveal their

frame of reference, to suggest communicating with voices, and meeting others who hear voices in order to diminish isolation and taboo.

The role of metacognition in the appraisal of initial onset experience of voices is likely to be of considerable importance in subsequent coping and levels of distress about voices.

In Romme & Eschers' study many of the voice hearers reported onset of voices in childhood (6% before 6, 10% 10-20yrs), as was the case in this study. Whether a person was clear or unclear about what the voice was, perceived uniqueness of the experience is likely to be related to the subsequent development of coping strategies. Beliefs amongst voice hearers about lack of natural coping resources for voices, and the need to develop special ones to deal with one-off nature of experience, would also be useful to explore.

Degree of clarity of beliefs is also important - this group of people has tended to be relatively neglected in research, yet they may be the most likely to modify beliefs.

4.6 CONCLUSIONS

The aetiology of voice hearing is still unknown and to date a comprehensive cognitive model has yet to be elaborated. This study has examined the role of metacognition in the maintenance of distress about voices and offers an alternative to the prevailing cognitive account of voices suggested by Chadwick & Birchwood (1994). Morrison, Haddock & Tarrier 's(1995) idea that voices arise because of particular metacognitive beliefs concerning intrusive thoughts have not been supported.

Important elements of metacognition that were highlighted by the analysis were fears of madness as a result of hearing voices, degree of personal responsibility taken for

thoughts in general, degree of responsibility for voices, perceived abnormality of hearing voices for others, desired positivity of thoughts in general, and perceived weak-mindedness.

The presence of malevolent content and anxiety was also found to be important in giving a comprehensive account of distress associated with voices.

Despite limitations of sample size and some of the measures used this study of 25 voice hearers has shown that metacognitive factors can be used to make a fairly good prediction of levels of distress about voices.

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Appendix 1

STRUCTURED CLINICAL INTERVIEW :

Thankyou for coming in to see me today.

Have you been given the Information Sheet to look at ?

Do you hear voices ?

Purpose of study.

(Do you want to take part in it ? issues of confidentiality, right to withdrawal)

Likely length of interview sessions (1 to 2 sessions of 40 minutes).

CONSENT FORM & further questions.

I just want to begin with a general rating of how you are feeling at the moment.

HOSPITAL ANXIETY AND DEPRESSION SCALE (HAD)

Explanation of structure of interview.

The study is in two parts : the first part is about thinking in general, and the second part is about hearing voices.

It is really important that we stop the interview if you get fed-up or upset or tired. It will not cause any problem and I would rather you told me than to carry on the interview in this situation. So please tell me if you want a break or to stop for the day.

1. Ideas about thinking and the mind :

To begin with I would like to talk about your ideas about thinking in general, your way or style of thinking, , and how you make sense of your experiences :

ATTRIBUTIONAL STYLE QUESTIONNAIRE - Part 1 (6 items)

SELF- RATING SCALES 1 - 4

SELF-CONSCIOUSNESS SCALE

ATTRIBUTIONAL STYLE QUESTIONNAIRE - Part 2 (6 items)

LAUNAY-SLADE HALLUCINATIONS SCALE (LSHS - A))

2. Ideas about voices :

Now I want to talk about your ideas about voices. What you think about your voices.

When did you last hear voices ?

BELIEFS ABOUT VOICES QUESTIONNAIRE

LAUNAY-SLADE HALLUCINATIONS SCALE (LSHS - B)

SELF-RATING SCALES 5 - 7

MEASUREMENT OF DISTRESS :

SELF RATING SCALE (DIS 1)

When did you first hear voices ?

How did you react ?

What did you think it was at the time ?

Did you know it was a voice or were you unclear about what it was ?

Is hearing voices like anything else you have experienced ?

Did you have ways of coping with them already that you had used in other situations ? or did you have to find special ways of dealing with them ?

Do you know anyone else who hears voices ?

How did you find out about voices ?

- Doctor, Psychiatrist, Nurse, Psychologist, Other
people who hear voices, reading about it.

Could the voices be thoughts ?

Extras / incidental information : (dependent on time)

Have you been told anything about where voices come from ?

What theories do you have about your voices ?

Do the voices come from inside or outside your head ?

Where ? Outside or inside of self (Romme & Escher 1996)

Thankyou for talking to me - it has been very helpful.

Are there any questions you want to ask me ?

Are you feeling O.K. ?

Would you be happy for the information you have given me to be passed back in
summary form to your keyworker as part of the work you are doing together, or would you
prefer to keep it confidential ?

Feedback format.

Thanks.

INTERVIEW - PROTOCOL

Ethical Considerations

The priority consideration at all times will be the welfare of the research participants. All individuals interviewed will be treated anonymously in that none will be named in the research reports. Participants will be fully briefed about the nature and purposes of the research. They will be given an unconditional right to withdraw at any stage and to have any material relating to them destroyed. Care will be taken to maintain the security of all confidential materials. Information gathered will be treated in accordance with the confidentiality guidelines established by the South Devon Health Care Trust, which identify conditions when disclosure is required.

Setting up the interview

Participants will be patients of mental health services in South Devon. Each participant will have a Keyworker under the Care Programme Approach.

Participants selected for interview are only invited to take part in the survey if their keyworker deems it appropriate. Appropriateness should be judged by keyworker as follows:-

1. Judgement and memory not grossly impaired by cognitive deficits or gross delusions (able to understand the task and give informed consent).
- And 2. Poses no risk to self, interviewer or others during or immediately after interview (take into account the environment, eg hospital ward, own home).
- And 3. Not likely to become distressed or disturbed (either during the interview or after) by the close attention of the interviewer.

Keyworkers are asked to approach these clients giving them an Information Sheet (see attached) and a request that they undertake the survey.

If the prospective research participant agrees, a time and place convenient to the research participant for the interview to take place will be set up through the keyworker.

The interview will be conducted in a venue familiar to the participant, with one researcher present. The keyworker will introduce the researcher to the research participant, and may stay at the request of the research participant. If the keyworker does not stay, the researcher will know how to contact them either during or after the interview, in case the need to arises.

The researcher will sit beside the participant, rather than opposite them. They will go through the interview schedule together, with the researcher helping them to complete it.

The aim is for the participant to feel at ease and to facilitate this the researcher adopts a friendly and interested approach.

The Interview

The researcher will confirm that the participant has read the information sheet provided, and is clear about what is expected.

The aim of the survey is reiterated, and confidentiality and anonymity stressed. The participant is encouraged to ask questions and discuss the interview until they feel satisfied. The participant is reminded that they are under no obligation at any time to continue the interview, should they wish to end it.

The researcher should complete the Interview Consent Form with the participant. If the participant decides not to agree the meeting should be ended, with the researcher courteously thanking the participant for their time and reassuring them that their decision will not affect any of the services they receive.

If at any point, if the participant appears distressed or disturbed, they are reminded that they are under no obligation to continue. The researcher should terminate the interview, in a concerned and caring manner, if they are aware of any distress or disturbance even if the participant has not requested to end the interview, unless the participant expressly wishes to continue.

The participant should be able to see at all times what is being written. After each question their response is verbally confirmed, before being written down.

On completion of the interview the participant will be thanked for their cooperation. They will be given a contact slip to get in touch with a researcher, should they wish to, and encouraged to raise concerns with their keyworker.

They will be asked whether they wish information discussed to be passed on to their Keyworker

After the Interview

If the interview is terminated prematurely, or if the researcher has immediate concerns for the research participants well being, the keyworker will be contacted immediately and told about the circumstances.

On the day of the interview a letter will be sent or given to the keyworker informing them;

1. Whether or not the interview took place
2. Any concerns that the researcher may have had (eg. Distress, disturbance, termination of interview, other behaviour causing concern).
3. How to ask the researcher for further information.
4. Thankyou.

DISCLOSURE OF INFORMATION WITHOUT CONSENT

In certain very exceptional circumstances it may be necessary to disclose some part of what a research participant has said during an interview without their permission

The circumstance is defined as follows;

Where information is available to the researcher which indicates a risk of physical harm to the research participant or others.

two

The interview conditions, which consist of one or ^{two} meetings with the research participant and will follow a prescriptive protocol, will not permit a systematic assessment of risk or an informed judgement of degree of risk. However, the researchers must balance the requirements of maintaining strict confidentiality with a general duty of care to the research participant and others. The researchers, therefore, must make judgements based on the particular situation using the following guidance;

information to be taken into account is a) what the research participant says describing their behaviour and/or the behaviour of others, and b) what the research participant says relevant to their intentions and/or the intentions of others.

Where the researcher deems disclosure is required, the following action will be taken;

1. At the end of the interview the research participant will be informed of the interviewer's concerns and it will be explained that under the circumstances it will be necessary to inform the keyworker of what the research participant has said in relation to those concerns.
2. The keyworker will be contacted immediately after the interview by the researcher, using the telephone number given prior to the interview, and informed of the researcher's concerns and what the research participant has said to raise the concerns.
3. A written account of what the research participant has said to raise the researcher's concerns will be sent to the keyworker on the same day as the interview took place.

RESEARCH INTO HEARING VOICES

CONFIDENTIALITY AND ANONYMITY PROTOCOL

The views of research participants will be completely confidential, except under the very exceptional circumstances described below. In order to maintain confidentiality, the following actions will be taken:

Case Finding

Keyworkers will be asked to identify mentally disordered offenders on their caseload by initials

All case finding forms will be treated as confidential hospital notes and data stored on the computer will have no personal identifiers. The computer is registered for the purposes of the research under the Data Protection Act.

Interviews

The research participants will see everything that is written down during the interview and will be offered the opportunity to withdraw or amend statements. Information collected from the interviews will not be stored with the research participants name and will be treated as confidential hospital notes. Anything the research participant says will not be disclosed to any individual or agency, except under the exceptional circumstances described below. Data stored on the computer will have no personal identifiers and the computer is registered for the purpose of the research under the Data Protection Act.

Reports

Research reports will contain no reference to individual names or specific circumstances, and individuals will not be identifiable in any quotations or illustrative case descriptions.

Appendix 3

1. I'm always trying to figure myself out.

Extremely unlike me	Quite unlike me	Unsure	Quite like me	Extremely like me
0	1	2	3	4

2. Generally, I'm not very aware of myself.

Extremely unlike me	Quite unlike me	Unsure	Quite like me	Extremely like me
0	1	2	3	4

3. I reflect about myself a lot.

Extremely unlike me	Quite unlike me	Unsure	Quite like me	Extremely like me
0	1	2	3	4

4. I'm often the subject of my own fantasies.

Extremely unlike me	Quite unlike me	Unsure	Quite like me	Extremely like me
0	1	2	3	4

5. I never scrutinise myself.

Extremely unlike me	Quite unlike me	Unsure	Quite like me	Extremely like me
0	1	2	3	4

6. I'm generally attentive to my inner feelings.

Extremely unlike me	Quite unlike me	Unsure	Quite like me	Extremely like me
0	1	2	3	4

7. I'm constantly examining my motives.

Extremely unlike me	Quite unlike me	Unsure	Quite like me	Extremely like me
0	1	2	3	4

8. I sometimes have the feeling that I'm off somewhere watching myself.

Extremely unlike me	Quite unlike me	Unsure	Quite like me	Extremely like me
0	1	2	3	4

9. I'm alert to changes in my mood.

Extremely unlike me	Quite unlike me	Unsure	Quite like me	Extremely like me
0	1	2	3	4

10. I'm aware of the way my mind works when I work through a problem.

Extremely unlike
me

Quite unlike
me

Unsure

Quite like
me

Extremely like
me

0

1

2

3

4

LAUNAY - SLADE HALLUCINATION SCALE (LSHS-1981)

ITEMS :

1. No matter how hard I try to concentrate, unrelated thoughts always creep into my mind.
2. In my daydreams I can hear the sound of a tune almost as clearly as if I were actually listening to it.
3. Sometimes my thoughts seem as real as actual events in my life.
4. Sometimes a passing thought will seem so real that it frightens me.
5. The sounds I hear in my daydreams are usually clear and distinct.
6. The people in my daydreams seem so true to life that I sometimes think they are.
7. I often hear a voice speaking my thoughts aloud.
8. In the past I have had the experience of hearing a person's voice and then found that no one was there.
9. On occasions I have seen a person's face in front of me when no one was in fact there.
10. I have heard the voice of the devil.
11. In the past I have heard the voice of God speaking to me.
12. I have been troubled by hearing voices in my head.

Rating :

a) Proneness to hallucinations :

Certainly applies.....Certainly does not apply

b) Modified Version : Normality :

Eliciting peoples beliefs about what is normal/usual
Should these things be happening ?

LA - Modified Form.

LSHS-A

HOW NORMAL IS IT FOR PEOPLE TO SAY :

1. "No matter how hard I try to concentrate, unrelated thoughts always creep into my mind".

Certainly Normal	Possibly Normal	Unsure	Possibly not Normal	Certainly not Normal
1	2	3	4	5

2." In my daydreams I can hear the sound of a tune almost as clearly as if I were actually listening to it."

Certainly Normal	Possibly Normal	Unsure	Possibly not Normal	Certainly not Normal
1	2	3	4	5

3. "Sometimes my thoughts seem as real as actual events in my life."

Certainly Normal	Possibly Normal	Unsure	Possibly not Normal	Certainly not Normal
1	2	3	4	5

4." Sometimes a passing thought will seem so real that it frightens me."

Certainly Normal	Possibly Normal	Unsure	Possibly not Normal	Certainly not Normal
1	2	3	4	5

5." The sounds I hear in my daydreams are usually clear and distinct."

Certainly Normal	Possibly Normal	Unsure	Possibly not Normal	Certainly not Normal
1	2	3	4	5

6." The people in my daydreams seem so true to life that I sometimes think they are."

Certainly Normal	Possibly Normal	Unsure	Possibly not Normal	Certainly not Normal
1	2	3	4	5

7." I often hear a voice speaking my thoughts aloud."

Certainly Normal	Possibly Normal	Unsure	Possibly not Normal	Certainly not Normal
1	2	3	4	5

8." In the past I have had the experience of hearing a person's voice and then found that no one was there."

Certainly Normal	Possibly Normal	Unsure	Possibly not Normal	Certainly not Normal
1	2	3	4	5

9." On occasions I have seen a person's face in front of me when no one was in fact there."

Certainly Normal	Possibly Normal	Unsure	Possibly not Normal	Certainly not Normal
1	2	3	4	5

10." I have heard the voice of the devil."

Certainly Normal	Possibly Normal	Unsure	Possibly not Normal	Certainly not Normal
1	2	3	4	5

11." In the past I have heard the voice of God speaking to me."

Certainly Normal	Possibly Normal	Unsure	Possibly not Normal	Certainly not Normal
1	2	3	4	5

12." I have been troubled by hearing voices in my head."

Certainly Normal	Possibly Normal	Unsure	Possibly not Normal	Certainly not Normal
1	2	3	4	5

Appendix 5

ASQ (modified)

INSTRUCTIONS :

Please try to vividly imagine yourself having the thought described. If you had such a thought, what would you feel would have caused it? While thoughts may have many causes, we want you to pick only one - the major cause if this you had this thought.

1. You think to yourself : " Be friendly to that person."
 2. You remember a happy occasion
 3. You think : " That person is harmful"
 4. You think : " God loves me."
 5. you think to yourself : " Hit that person"
 6. You have the thought : " The Devil is trying to harm me."
-
7. You think " That was a good thing to do."
 8. You remember an unhappy time
 9. You think to yourself : " That person's helpful."
 10. You think : " That was a stupid thing to do."
 11. You have the thought : " I'm a bad person."
 12. You have the thought : " I'm a special person."

Next I want you to answer some questions about the cause.

7

QUESTIONS :

a) Is the cause () due to something about you or to something about other people or circumstances ? (Circle one of the following.)

Totally due to others or circumstances	1	2	3	4	5	6	7	Totally due to me
---	---	---	---	---	---	---	---	-------------------

b) In the future when you have this thought again (), will it be for the same reason () ?

Will never be the same reason	1	2	3	4	5	6	7	Will always be the same reason
----------------------------------	---	---	---	---	---	---	---	--------------------------------

c) Is the cause () something that just influences this thought (), or does it also influence other thoughts that you might have ?

Influences just this particular thought	1	2	3	4	5	6	7	Influences all thoughts
--	---	---	---	---	---	---	---	-------------------------



Name:

Date:

Doctors are aware that emotions play an important part in most illnesses. If your doctor knows about these feelings he will be able to help you more.

This questionnaire is designed to help your doctor to know how you feel. Read each item and place a firm tick in the box opposite the reply which comes closest to how you have been feeling in the past week.

Don't take too long over your replies: your immediate reaction to each item will probably be more accurate than a long thought-out response.

Tick only one box in each section

Feel tense or 'wound up':

Most of the time
A lot of the time
Time to time, Occasionally
Not at all

✓

I feel as if I am slowed down:

Nearly all the time
Very often
Sometimes
Not at all

✓

Still enjoy the things I used to enjoy:

Definitely as much
Not quite so much
Only a little
Hardly at all

✓

I get a sort of frightened feeling like 'butterflies' in the stomach:

Not at all
Occasionally
Quite often
Very often

✓

Get a sort of frightened feeling as if something awful is about to happen:

Very definitely and quite badly
Yes, but not too badly
A little, but it doesn't worry me
Not at all

✓

I have lost interest in my appearance:

Definitely
I don't take so much care as I should
I may not take quite as much care
I take just as much care as ever

✓

Can laugh and see the funny side of things:

As much as I always could
Not quite so much now
Definitely not so much now
Not at all

✓

I feel restless as if I have to be on the move:

Very much indeed
Quite a lot
Not very much
Not at all

✓

Worrying thoughts go through my mind:

A great deal of the time
A lot of the time
From time to time but not too often
Only occasionally

✓

I look forward with enjoyment to things:

As much as ever I did
Rather less than I used to
Definitely less than I used to
Hardly at all

✓

I feel cheerful:

Not at all
Not often
Sometimes
Most of the time

✓

I get sudden feelings of panic:

Very often indeed
Quite often
Not very often
Not at all

✓

Can sit at ease and feel relaxed:

Definitely
Usually
Often
Not at all

✓

I can enjoy a good book or radio or TV programme:

Often
Sometimes
Not often
Very seldom

✓

Do not write below this line

BELIEFS ABOUT VOICES QUESTIONNAIRE (BAVO)
(Chadwick & Birchwood 1995)*

ITEMS :

1. My voice is punishing me for something I have done.
2. My voice wants to help me.
3. My voice is persecuting me for no good reason.
4. My voice wants to protect me.
5. My voice is evil.
6. My voice is helping me to keep sane.
7. My voice wants to harm me.
8. My voice is helping me to develop my special powers or abilities.
9. My voice wants me to do bad things.
10. My voice is helping me to achieve my goal in life.
11. My voice is trying to corrupt or destroy me.
12. I am grateful for my voice.
13. My voice is very powerful.
14. My voice reassures me.
15. My voice frightens me.
16. My voice makes me happy.
17. My voice makes me feel down.
18. My voice makes me feel angry.
19. My voice makes me feel calm.
20. My voice makes me feel anxious.
21. My voice makes me feel confident.

WHEN I HEAR MY VOICE, USUALLY.....

22. I tell it to leave me alone.
23. I try and take my mind off it.
24. I try and stop it.
25. I do things to prevent it talking.
26. I am reluctant to obey it.
27. I listen to it because I want to.
28. I willingly follow what my voice tells me to do.
29. I have done things to start to get in contact with my voice.
30. I seek the advice of my voice.

Scoring criteria :

Malevolence - 6 items (4)

Benevolence - 6 items (3)

Resistance - 9 items (6)

Engagement - 6 items (5)

Power - 1 item

*From Chadwick,P.D.J & Birchwood,M.J. (1995) - 'The Omnipotence of Voices II : the Beliefs About Voices Questionnaire' British Journal of Psychiatry 165, 773-776.

Appendix 8

SELF RATING SCALE

PART 1

1. I SHOULD BE ABLE TO CONTROL MY THOUGHTS

Completely agree

Completely disagree

2. I AM RESPONSIBLE FOR ALL THE THOUGHTS IN MY HEAD

Completely agree

Completely disagree

3. I SHOULD THINK ONLY POSITIVE THOUGHTS

Completely agree

Completely disagree

4. I AM LESS STRONG-MINDED THAN THE AVERAGE PERSON

Completely agree

Completely disagree

PART 2

5. I WORRY THAT HEARING VOICES MEANS THAT I AM MAD

Completely agree

Completely disagree

6. IT IS NORMAL TO HEAR VOICES

Completely agree

Completely disagree

7. I AM RESPONSIBLE FOR HEARING VOICES

Completely agree

Completely disagree

HoNOS

SMI

Health of the Nation Outcome Scales



Summary of rating instructions:

1. Rate each scale in order from 1 to 12
2. Do not include information rated in an earlier item
3. Rate the **MOST SEVERE** problem that occurred during the period rated
4. All scales follow the format

- 0 = no problem
- 1 = minor problem requiring no action
- 2 = mild problem but definitely present
- 3 = moderately severe problem
- 4 = severe to very severe problem

Glossary for HoNOS Chart

Rate 9 if Not Known or Not Applicable

1. Overactive, aggressive, disruptive behaviour

Include such behaviour due to any cause, e.g. drugs, alcohol, dementia, psychosis, depression, etc.

Do not include bizarre behaviour, rated at Scale 5

- 0 No problems of this kind during the period rated
- 1 Occasional irritability, quarrels, restlessness etc. but generally calm
- 2 Includes occasional aggressive outbursts, pushing or pestering others; threats or verbal aggression; lesser damage to property (e.g. broken cup, window); marked overactivity or agitation
- 3 Physically aggressive to others or animals (short of rating 4); persistently threatening manner; more serious overactivity or destruction of property
- 4 At least one serious physical attack on others or on animals; destructive of property (e.g. fire-setting); persistent serious intimidation or obscene behaviour

2. Non-accidental self-injury

Do not include accidental self-injury (due e.g. to dementia or severe learning disability); the cognitive problem is rated at Scale 4 and the injury at Scale 5. Do not include illness or injury as a direct consequence of drug/alcohol use rated at Scale 3; (e.g. cirrhosis of the liver or injury resulting from drunk driving are rated at Scale 5.)

- 0 No problem of this kind during the period rated
- 1 Occasional or fleeting thoughts about ending it all but little risk; no self-harm
- 2 Minor risk during period; includes non-hazardous self-harm e.g. wrist-scratching
- 3 Moderate to serious risk of deliberate self-harm; includes preparatory acts e.g. collecting tablets
- 4 Serious suicidal attempt and/or serious deliberate self-injury during period

3. Problem-drinking or drug-taking

Do not include aggressive/destructive behaviour due to alcohol or drug use, rated at Scale 1

Do not include physical illness or disability due to alcohol or drug use, rated at Scale 5

- 0 No problem of this kind during the period rated
- 1 Occasional over-indulgence but within social norm
- 2 Occasional loss of control of drinking or drug-taking, but not seriously addicted
- 3 Marked dependence on alcohol or drugs with frequent loss of control, drunk driving, etc.
- 4 Incapacitated by alcohol/drug problems

Rate 9 if Not Known or Not Applicable

4. Cognitive problems

Include problems of memory, orientation and understanding associated with disorder: learning disability, dementia, schizophrenia, etc.

Do not include temporary problems (e.g. hangovers) resulting from alcohol use, rated at Scale 3.

- 0 No problem of this kind during the period rated
- 1 Minor problems with memory or understanding, e.g. forgets occasionally
- 2 Mild but definite problems, e.g. has lost the way in a familiar area; failed to recognise a familiar person; sometimes mixed up in simple decisions
- 3 Marked disorientation in time, place or person, bewildered by events; speech is sometimes incoherent; mental slowing
- 4 Severe disorientation, e.g. unable to recognise relatives, at accidents, speech incomprehensible; clouding or stupor

5. Physical illness or disability problems

Include illness or disability from any cause that limits or prevents mobility, impairs sight or hearing, or otherwise interferes with personal functioning.

Include side-effects from medication; effects of drug/alcohol use; physical disabilities resulting from accidents or self-harm associated with cognitive problems, drink-driving, etc.

Do not include mental or behavioural problems rated at Scale 4

- 0 No significant physical health problem during the period rated
- 1 Minor health problem during the period (e.g. cold, non-serious etc.)
- 2 Physical health problem imposes mild restriction on mobility
- 3 Moderate degree of restriction on activity due to physical health problem
- 4 Severe or complete incapacity due to physical health problem

6. Problems associated with hallucinations and delusions

Include hallucinations and delusions irrespective of diagnosis.

Include odd and bizarre behaviour associated with hallucinations or delusions. Do not include aggressive, destructive or overactive behaviours attributed to hallucinations or delusions, rated at Scale 1

- 0 No evidence of hallucinations or delusions during the period rated
- 1 Somewhat odd or eccentric beliefs not in keeping with culture
- 2 Delusions or hallucinations (e.g. voices, visions) are present but cause little distress to patient or manifestation in bizarre behaviour clinically present but mild
- 3 Marked preoccupation with delusions or hallucinations, causing distress and/or manifested in obviously bizarre behaviour, moderate to severe clinical problem

RESEARCH INTO DISTRESS ASSOCIATED WITH HEARING VOICES

KEYWORKER INFORMATION SHEET :

Recent research into the phenomenon of hearing voices usually associated with the psychiatric diagnosis of Schizophrenia, has pointed to the importance of psychological factors in the reaction of individuals to this experience. So far the research seems to indicate that the amount of distress experienced as a result of the voices, and the subsequent ability of the person to cope with them successfully, is related to their beliefs about voices. These findings provide hope of a new direction in the therapeutic approach to voice hearers, particularly in terms of reducing levels of distress, and developing successful coping strategies which often lead to a reduction in the intrusiveness of voices.

Dave Jeffery and I are currently planning a research project within the Torbay Health Authority Area, and we need your help in order to do so. The project is in association with the University of Plymouth and is subject to both the University and the Torbay Local Ethics Committee standards on carrying out clinical research. As such any contributions by individuals (clients or keyworkers) are treated as confidential and anonymous throughout the research process. participation will be on the basis of informed consent and safety of participants will be prioritised.

The project involves Dave or myself carrying out interviews with participants designed to highlight psychological factors involved in the individuals ability to cope with voices.

We would need your help in the following areas :

1. To identify people aged 16-65 who are currently hearing voices as part of a mental health problem.
2. To make an estimate of the persons distress as a result of voices.
3. To facilitate contact between that person and Dave or myself.

This research should not cause any distress to participants and will not interrupt any therapeutic work already in progress (it is not an intervention in itself, but rather looks at the opinions of participants). However, if participants show any signs of distress or unease at the interviewing process, then the interview will be stopped and the individuals keyworker informed on the same day where possible. We will take your advice as to the appropriateness of interviewing clients and the best venue for these meetings.

The client will be offered the opportunity of passing on the information gained as a result of the structured clinical interview to their Keyworker in order to facilitate treatment or therapy.

THANK YOU FOR YOUR TIME

Lynn McClelland (Trainee Clinical Psychologist)
Dave Jeffery (Clinical Psychologist).

Belmont Court, 124 Newton Road, Torquay, Devon, TQ2 7AD. Tel. 01803 654563.

George - Appendix II

CLIENT

INITIALS

D.O.B.

M/F

DIAGNOSIS ?

HONOS*
RATING

COMMENTS

s. stability, special
considerations)

finds it difficult
to express himself.

1.

DE

29/9/77

M

schizophrenia

3

2.

EW

10/9/74

F

schizophrenia

2

suitable, but not very
reliable in keeping
appointments

3.

DE

(11)

M

? Schizophrenia

v. Suitable.

4.

J.S

F

Abuse

History of admissions
may find it difficult
to talk about voices
but not paranoid

5.

I.C.

(15)

M

schiz.

On supervision. Shop
register - advisable
to see George at
culvermay

6.

7.

8.

9.

10.

RESEARCH INTO HEARING VOICES

INTERVIEW CONSENT FORM

Have you read the information sheet? YES / NO

Have you had an opportunity to ask questions and discuss the interview? YES / NO

Have you received satisfactory answers to all your questions? YES / NO

Have you received enough information about the interview? YES / NO

Who have you spoken to? Mr / Ms

Do you understand you are free to withdraw from the interview:

- At any time
- Without having to give a reason for withdrawing
- And without affecting any of the services you receive

YES / NO

Do you agree to take part in the interview? YES / NO

1. Research participant

SIGNED.....DATE.....

NAME IN BLOCK LETTERS.....

2. Witness

SIGNED.....DATE.....

NAME IN BLOCK LETTERS.....

Lynn McClelland (Clinical Psychologist in training)

David Jeffery (Clinical Supervisor)

Belmont Court, 124 Newton Road, Torquay. 01803 654563.

HEARING VOICES RESEARCH

INFORMATION SHEET :

Many people in contact with Mental Health Services hear voices. This experience has been traditionally associated with a Psychiatric diagnosis of 'schizophrenia', however recent research has shown that a wide range of people hear voices, some of whom have had no contact with Psychiatric services. People also vary in the way they react and cope with voices - for some they may cause distress, whereas others may find them helpful or reassuring.

I am doing some research with people who hear voices and I am particularly interested in ideas about the mind and the experience of hearing voices. I am looking for people who are prepared to help me with this research by talking about their own experience.

If you were to be involved with the project it would mean meeting up with me , through a keyworker initially, in order to arrange one or two sessions (about 40 minutes each) in which I would ask you a series of questions about hearing voices. Participation in the study is voluntary and you will not have to say any more than you want to. What you say will be confidential and your name will not be recorded. If however, at the end of the interview you would like what you have said to be passed on to your keyworker as helpful to your treatment or therapy, this can be arranged.

If you take part, you will be able to withdraw from it at any time without giving a reason. This is your right and will not affect your relationship with Mental Health Services or cause any bad feelings.

Please keep this sheet for your own information if you would like to do so.

If you would like to know more about this study please feel free to contact me or your keyworker with your questions.

THANKYOU FOR YOUR TIME

Lynn McClelland (Clinical Psychologist in training)
Clinical Supervisor : David Jeffery.

Belmont Court, 124 Newton Road, Torquay.
Tel. 01803 654563.

Appendix 14:

113: POWER - (-9999)

Text	Numeric	Long label
power	100	

123: LENGTH_V - (-9999)

Text	Numeric	Long label
length-V	100	

2: GENDER - (-9999)

Text	Numeric	Long label
gender	100	

3: AGE - (-9999)

Text	Numeric	Long label
age	100	

4: DIAG - Diagnosis - Psychiatric (-9999)

Text	Numeric	Long label
diagnosis	100	

STAT.		Correlations (data1.sta)																			
SIC		Banded correlations are significant at $p < .05000$																			
NATS		N=25 (Casewise deletion of missing data)																			
Variable	DIS_T	INT_PO S	INT_NE G	STAR_P OS	STAR_N TO	GLCS_P OS	GLCS_N EO	SELF_T -	LA_T	CONTR L	POSITI VE	WEAKEN ED	HARMES S	ARMOR AL	RESP_V	RESP_T EZ	HALEVO L	SENEVO L	POWER	LENGTH _V	GENDER
DIS_T	1.00	-.20	.15	-.09	-.01	.02	.25	.16	.15	-.23	.56*	.43*	.70*	.23	.46*	-.46*	.65*	-.54*	.07	-.19	.20
INT_PO S	-.20	1.00	.08	-.16	.05	.16	.08	-.15	-.22	.19	.10	-.19	-.04	-.12	-.00	.35	-.08	.36	-.19	-.10	.17
INT_NE G	.15	.08	1.00	.11	.02	-.23	-.36	.02	.20	.04	.23	-.34	.22	.34	.55*	.05	.08	.12	.28	-.16	.26
STAR_P OS	-.09	-.16	.11	1.00	.50*	-.05	.06	-.11	.01	-.28	-.14	-.12	.14	-.06	.10	.02	.12	-.16	.14	.08	-.28
STAR_N TO	.02	.06	.02	.50*	1.00	.16	.21	-.08	-.21	-.18	.04	-.02	.27	-.17	.27	-.10	.14	-.20	.19	.06	-.21
GLCS_P OS	.25	.08	-.23	-.05	.16	1.00	.71*	-.01	.23	.23	.01	-.04	-.10	-.60*	.01	.02	.02	.13	.08	.15	.09
GLCS_N EO	.16	.08	-.36	.06	.22	.71*	1.00	.18	.13	.24	.02	-.02	.12	-.44*	.10	-.09	.16	-.12	-.10	.04	-.18
SELF_T -	.16	-.15	.02	-.11	-.08	-.01	.18	1.00	-.07	.24	.16	.02	.10	-.12	.12	-.11	.15	.00	-.17	-.51*	-.02
LA_T	.15	-.22	.20	-.01	-.21	.23	.13	-.07	1.00	.11	.03	-.31	-.07	.09	-.23	.00	-.07	-.03	.01	.16	.00
CONTR L	-.23	.19	.04	-.28	-.18	.23	.24	.24	.11	1.00	.09	-.35	.02	.02	-.22	.59*	-.34	.17	-.07	-.23	.04
POSITI VE	.56*	.10	.23	-.14	.04	.01	.02	.16	.03	.09	1.00	.15	.57*	.34	.37	-.09	.30	-.26	-.04	-.03	.44*
WEAKEN ED	.43*	-.19	-.34	-.12	-.02	-.04	-.02	.02	-.31	-.35	.15	1.00	.32	-.01	.13	-.32	.50*	-.22	.01	-.08	.02
HARMES S	.70*	-.04	.22	.14	.27	-.10	.12	.10	-.07	.02	.57*	.32	1.00	.44*	.47*	-.20	.55*	-.38	.13	.25	-.00
ARMOR AL	.23	-.12	.34	-.06	-.17	-.60*	-.44*	-.12	.09	.02	.34	-.01	.44*	1.00	.06	.09	.18	-.01	.02	.05	.11
RESP_V	.46*	-.00	.55*	.10	.27	.01	.10	.12	-.23	-.22	.37	.13	.47*	.06	1.00	-.50*	.23	-.08	.37	.18	.02
RESP_T EZ	-.46*	.35	.05	.02	-.10	.02	-.09	-.11	.00	.58*	-.09	-.32	-.20	.09	-.50*	1.00	-.21	.42*	-.21	-.04	.10
HALEVO L	.65*	-.08	.12	.12	.14	.02	.16	.15	-.07	-.34	.30	.30*	.55*	.18	.23	-.21	1.00	-.45*	-.26	.15	.11
SENEVO L	-.54*	.36	.12	-.16	-.20	.13	-.12	.00	-.03	.17	-.26	-.22	-.38	-.01	-.08	.42*	-.45*	1.00	.24	-.19	-.13
POWER	.07	-.19	.28	.14	.19	.08	-.10	-.17	.01	-.07	-.04	.01	.13	.02	.37	-.21	-.26	.24	1.00	-.23	-.02
LENGTH _V	-.19	-.10	-.16	.08	.06	.15	.04	-.51*	.16	-.23	-.03	-.08	-.25	.05	-.18	.04	.15	-.19	-.23	1.00	-.01
GENDER	.20	.17	.26	-.28	-.21	.09	-.18	-.02	.00	.04	.44*	.02	-.00	.11	.02	.10	.11	-.13	-.02	-.01	1.00
AGE	-.09	-.10	.01	.04	.11	.05	-.02	-.18	.07	-.14	.32	-.15	-.13	.17	.04	.16	-.14	.22	.17	.38	.18
DIAG	.16	-.19	.15*	.22	.12	.01	-.05	.22	.10	.02	.17	-.10	.25	.25	.32	-.05	.18	-.03	-.16	-.10	.18

STAT. SIC NATS

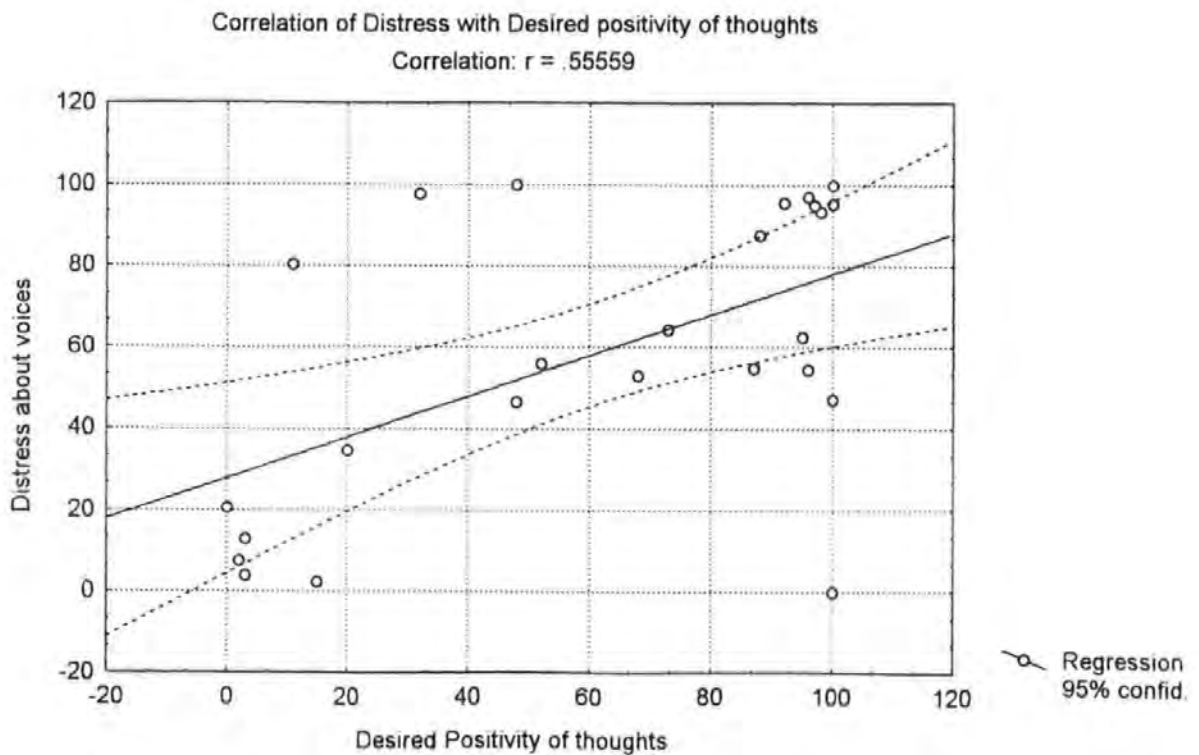
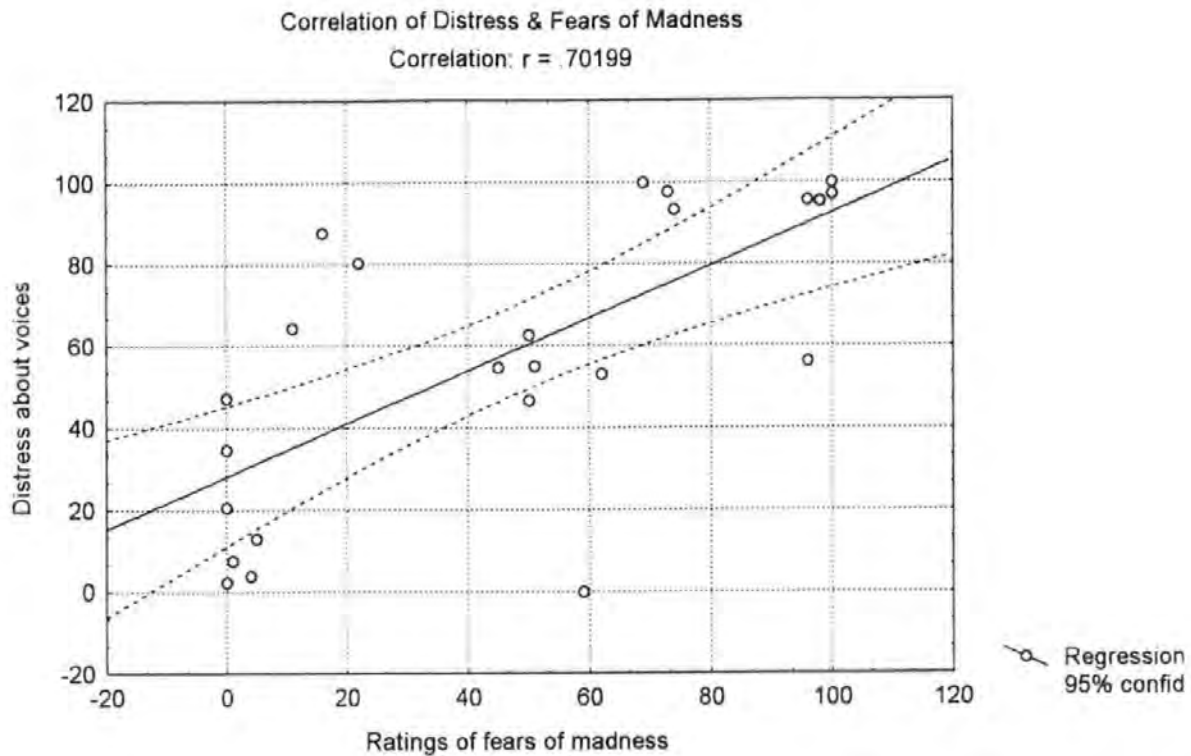
Correlations (data1.sta)

Banded correlations are significant at $p < .05000$

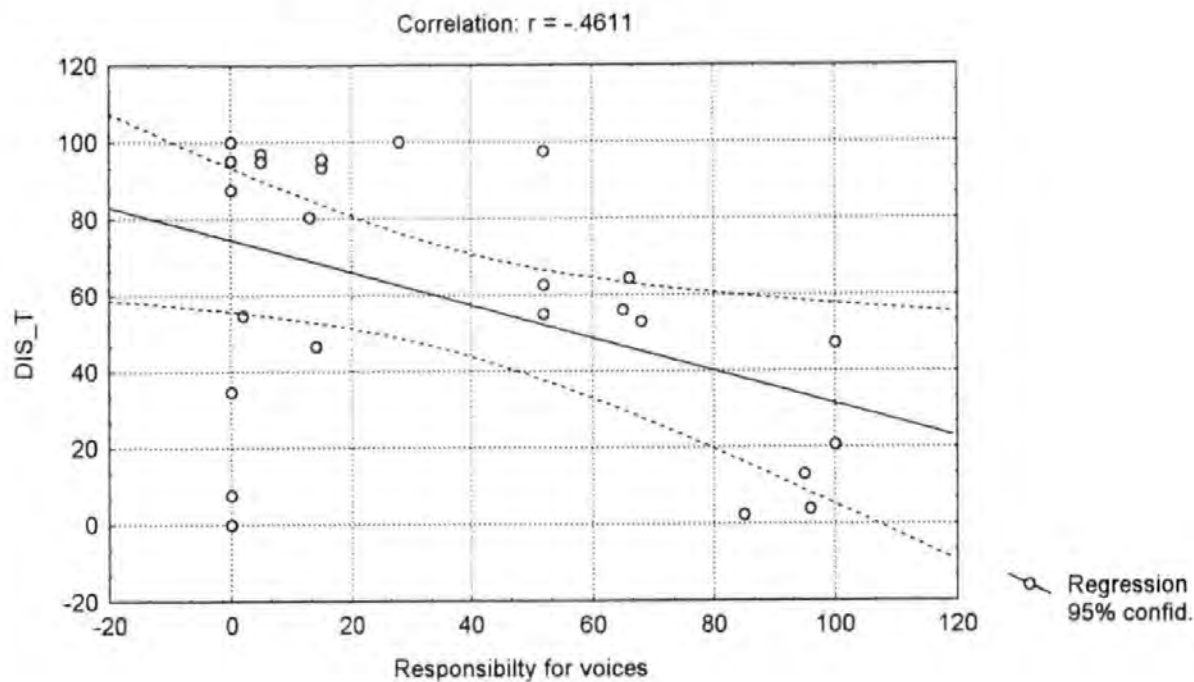
N=25 (Casewise deletion of missing data)

Variable	AGE	DIAG
DIS_T	-.09	.16
INT_PO S	-.10	-.19
INT_NE G	.01	.45*
STAR_P OS	.04	.22
STAR_N TO	.11	.12
GLCS_P OS	.03	.01
GLCS_N EO	-.02	-.05
SELF_T -	-.18	.22
LA_T	.07	.10
CONTR L	-.14	.02
POSITI VE	.32	.17
WEAKEN ED	-.15	-.10
HARMES S	-.13	.25
ARMOR AL	.17	.23
RESP_V	.01	.32
RESP_T EZ	.16	-.05
HALEVO L	-.14	.18
SENEVO L	.22	-.03
POWER	.17	-.16
LENGTH _V	.38	-.10
GENDER	.18	.18
AGE	1.00	-.02
DIAG	-.02	1.00

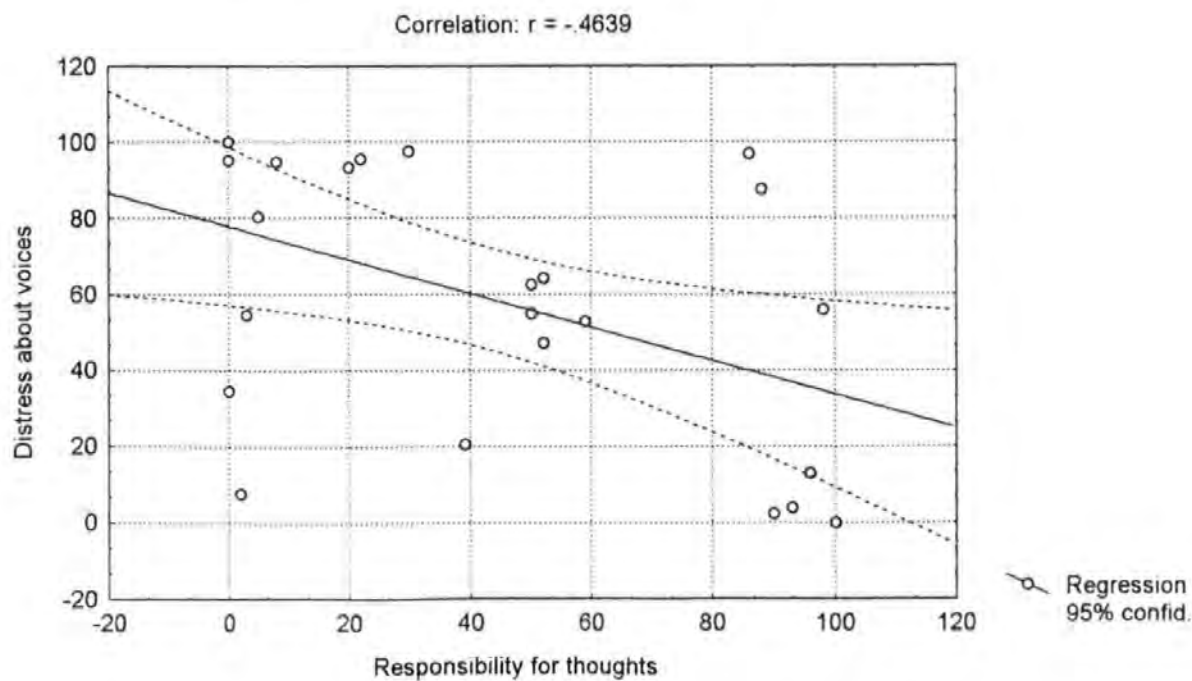
Appendix 15 : Graphical representation of metacognitive variables significantly correlated with levels of distress about voices.



Correlation of distress with responsibility for voices

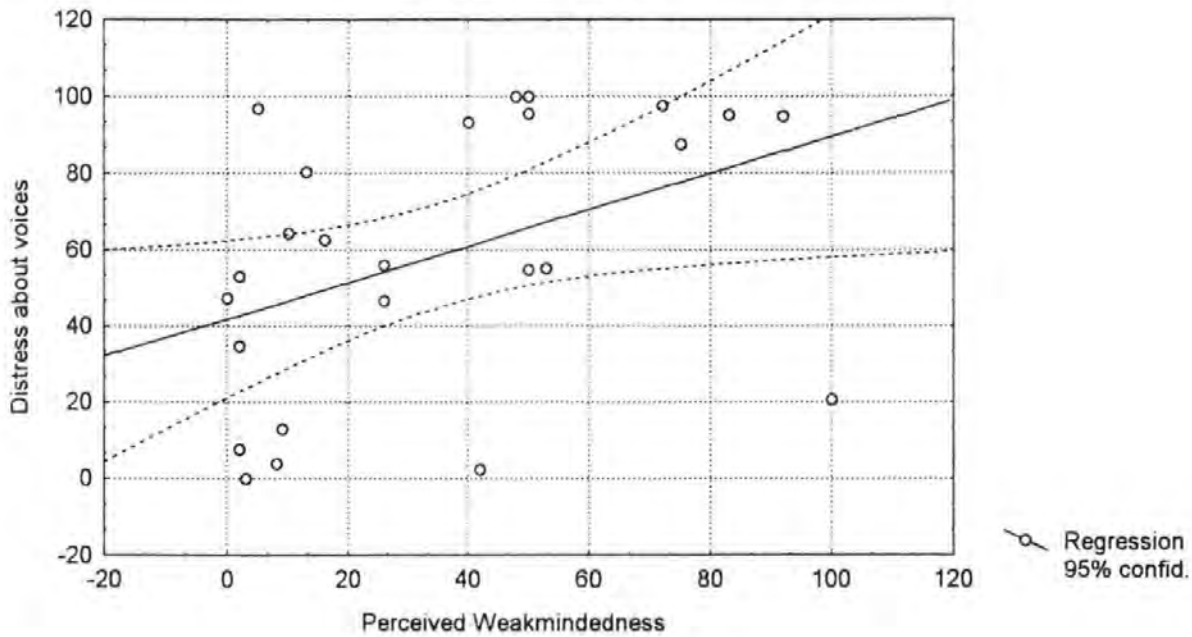


Correlation of Distress with Responsibility for thoughts

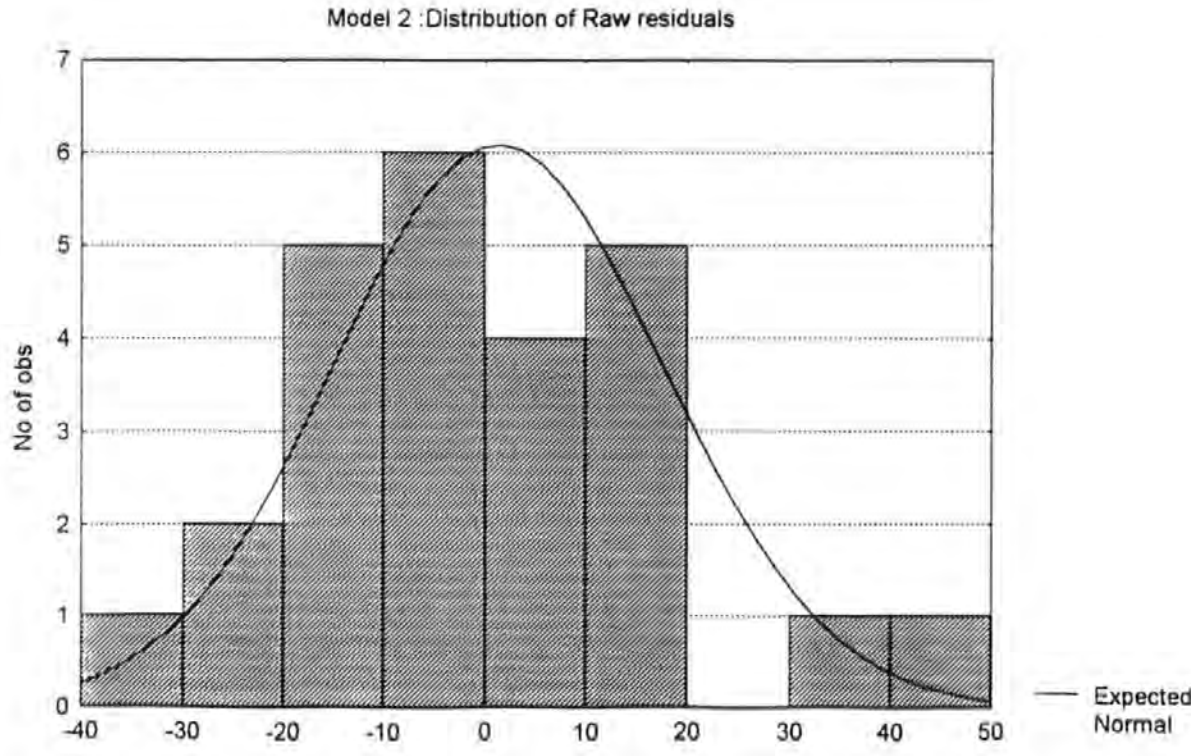
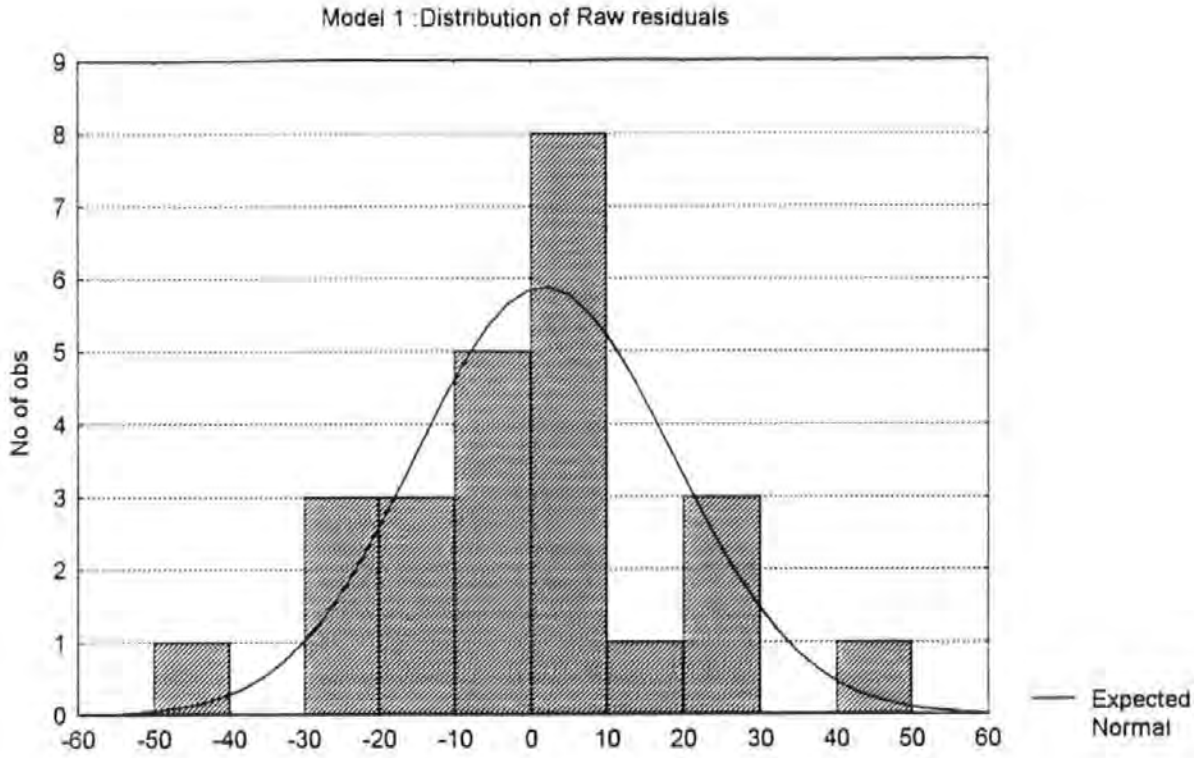


Correlation of perceived Weakmindedness and Distress

Correlation: $r = .42544$



Appendix 16 Demonstration of normality of Model 1 & 2 using plots of raw residuals.



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